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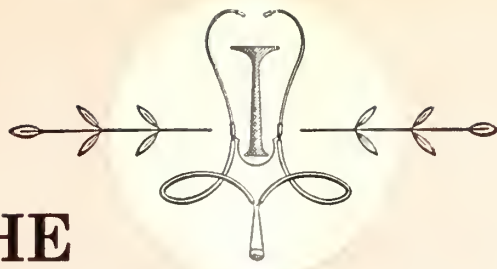
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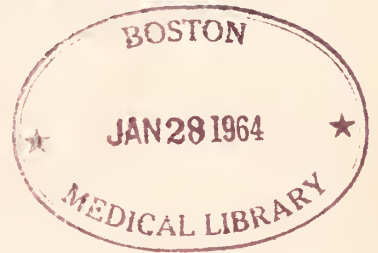


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Kansas
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JANUARY
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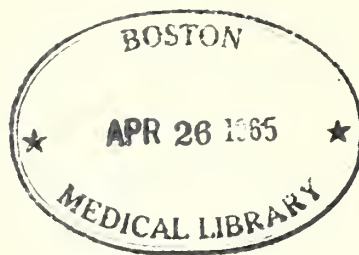
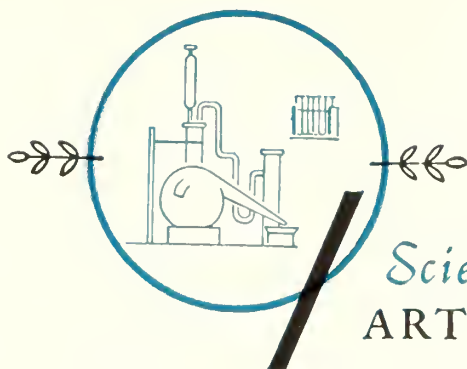
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Second Annual Psychiatric Issue

It is with pleasure that the second annual issue of the JOURNAL devoted to psychiatric-related discussions is presented.

We wish to thank the authors for preparing the papers and allowing us to publish them. A special acknowledgment goes to the Director of Community Health Services of the State Department of Social Welfare, Dr. H. G. Whittington, for his help in soliciting the articles and Miss Susan Ellermeier, Informational Counsel, for her able assistance in editing and assembling the papers for publication. It is through their efforts that this issue is possible. We are grateful for their contributions and proudly present this special issue to our readers.



Estimation of Treatment

Outcome of Psychiatric Treatment in Private Practice

H. G. WHITTINGTON, M.D.,* *Laurence*

AN ARTICLE PUBLISHED in the January, 1963, issue of the JOURNAL OF THE KANSAS MEDICAL SOCIETY reported the author's experience in psychiatric practice in a small Kansas community. A study was made of referral sources of new patients, and comparisons of various descriptive aspects of the illnesses (such as severity, health-sickness ratings and diagnoses) were made between physician-referred and other referred groups. It was noted that about a third of the cases were advised to enter psychotherapy, but that an evaluation of the results of such treatment waited for the future. "This descriptive study stands only as a prologue, then, to an evaluative follow-up of ex-patients."

The present paper is a report on the 48 patients who were treated in psychotherapy by the author, out of the original patient group described in the 1963 article. Six of these patients were not followed up for a variety of reasons, such as inability to find recent address, incomplete data for inclusion in the sample, or for therapeutic indication. Of the 42 patients who received a questionnaire in the mail, 18 returned the questionnaire and 24 did not. Time between termination of therapy and follow-up varied widely, and no attempt was made to control or evalu-

ate the effect of post-therapy interval on the follow-up data.

Estimate of Outcome in Questionnaire-Returnee Group

A cover letter was sent to each patient explaining the need to evaluate psychiatric practice in a private

Is it possible for the therapist to predict the duration of treatment or the outcome at the beginning of treatment? According to this evaluation of psychiatric practice in a private setting, the therapist can, to a limited extent, predict the length and outcome of treatment; and in general, outpatient psychotherapy is an effective treatment modality.

setting, and asking his cooperation. The letter made it clear that the author regarded this as an intrusion into his privacy, and invited him, if he wished, to discard the communication and not answer. No second letter was sent.

The questionnaire consisted of an outcome rating sheet on which the patient was asked to estimate, along a variety of dimensions, whether he felt therapy

* Dr. Whittington is director of Community Mental Health Services, Division of Institutional Management, Kansas State Board of Social Welfare.

had helped very much, some, had not helped, or had made the situation worse. The dimensions asked about involved relationships with others, relationships toward work, symptoms, and specific problems for which the person had sought help. In addition, a long symptom check list was sent each individual, on which he was asked to rate the occurrence or non-occurrence of each symptom during the week following receipt of the questionnaire, rating each item along a scale from severely troubled to not troubled at all. Each of these two questionnaires was amenable to numerical scoring, and each patient could then be ranked sequentially in terms of his score on one or the other of the questionnaires. The therapist had completed an outcome estimate (which gave a numerical estimate of his judgment about the usefulness of treatment) at the beginning of the study, prior to receiving the patients' replies.

One question on the outcome rating sheet asked if the patient believed that he received help with the *specific* problem for which he had sought treatment. Of the patients who returned the questionnaire, 94 per cent believed they had received help. Twelve of the patients felt that they had received much assistance, whereas the therapist felt only nine could be rated as much improved. Another question on the outcome estimate asked the patient if he felt therapy was helpful in an *overall* way. All of the patients felt that it had been helpful overall, while the therapist rated 94 per cent of the questionnaire-returnee group as having been helped. Ten of the patients had scores above 11 on the outcome estimate, indicating that in their opinion they were notably improved as a result of psychotherapy; the therapist rated 12 individuals in the same notably improved category.*

Predictive Measures

Is it possible for the therapist to predict the duration of treatment or the outcome at the beginning of treatment? A prognostic estimation schema was developed by the author, for rating the patient along a number of dimensions that have been associated with outcome in current literature. Such items as pre-morbid adjustment, duration of illness, precipitating

events, and so forth were included in this rating. The prognostic form was completed at the initiation of this study, after the completion of treatment, but prior to receiving follow-up questionnaires from the patients. A numerical score was obtained, with the high score indicating a good prognostic estimate.

It was then possible to rank all 18 patients along the following dimensions: prognostic estimate, health-sickness rating, age, outcome estimate completed by therapist, outcome estimate completed by patient, discomfort score completed by patient, and the number of therapy hours. The rank order correlations that were obtained between these various scores appear in *Table 1*. It is to be seen that all correlations are relatively weak. There is a positive correlation between the health-sickness rating and the number of hours; that is, the sicker the patient is, the longer his treatment tends to be. However, there is no appreciable correlation between prognostic score and length of treatment.

There is a correlation between the health-sickness rating and the prognostic score; the sicker the patient is rated, the poorer his prognosis tends to be. There is a weak correlation between the prognostic score and the discomfort score as completed by the patient at the termination of therapy; in other words, the better the prognostic score, the less the patient's discomfort will tend to be after the termination of treatment. Prognostic score is also weakly correlated with the patient's outcome score, but not with the therapist's outcome score. The health-sickness rating is not appreciably related to the patient's outcome score or discomfort score or to the therapist's outcome score. Therapist's and patient's estimates of outcome were positively correlated.

In other words, the therapist could, to a limited

TABLE 1
RANK ORDER CORRELATIONS

HSR: No. Hrs.	+0.29
PS: No. Hrs.	+0.17
HSR: PS	+0.38
PS: DS	+0.38
PS: POS	+0.36
PS: TOS	+0.10
HSR: POS	+0.10
HSR: TOS	-0.11
HSR: DS	-0.10
TOS: POS	+0.29

PS = Prognostic Score.
No. Hrs. = Number Treatment Hours.
HSR = Health-Sickness Rating.
DS = Discomfort Score (by pt.).
POS = Outcome Score (by pt.).
TOS = Outcome Score (by therapist).

* Agreement was not complete between patient and therapist. For example, in answering the question as to what degree the patient was helped with the problem for which he sought help, there was complete agreement between patient and therapist in nine cases; the patient gave a higher rating than the therapist in six cases, and the therapist gave a higher rating than the patient in three cases. In answering the request to estimate the overall assistance that therapy gave the patient, there was complete agreement in 12 cases; the patient gave a higher rating than the therapist in four cases, and the therapist gave a higher rating than the patient in two cases. In comparing the total scores, there was complete agreement about the score in five cases; the patient gave a higher total score on the outcome estimate than the therapist in six cases, and the therapist gave a higher rating than the patient in seven cases.

TABLE 2
COMPARISON OF QUESTIONNAIRE-RETURNEE—NON-RETURNEE GROUP

Total Patients in Treated Group	48			
Not Followed Up	6			
Total Follow-Up Group	42			
	N = 18		N = 24	
	<i>Returned Questionnaire</i>		<i>Did Not Return Questionnaire</i>	
	MEAN	MEDIAN	MEAN	MEDIAN
Age	34	34	28	30
Health-Sickness Rating	56	60	54	55
Therapist Outcome Score	13	11	8	8
Patient Outcome Score	12	12	—	—
Patient Discomfort Score	22	15	—	—
Prognostic Score	51	54	46	47
Number of Therapy Hours	65	36	30	14
Diagnoses:				
Schizophrenic		2		7
Manic-Depressive		1		1
Organic Brain Syndrome		0		1
Anxiety Reaction		4		4
Depressive Reaction		7		6
Obsessive-Compulsive Personality		1		0
Hysterical Personality		2		0
Paranoid Personality		1		1
Passive Aggressive		0		2
Adjustment Reaction		0		2
Patients Subsequently Hospitalized		1		2
Number of Patients Who Terminated Against Advice		1		7
Per Cent Female		75%		67%
Type of Therapy While Under Care of Author				
Predominately Psychotherapy				
Supportive Psychotherapy		7		11
Supportive-Expressive Psychotherapy		7		8
Expressive Psychotherapy		3		0
Counseling		0		1
Family Therapy		0		1
Predominately Pharmacotherapy		0		2
Hospital Treatment		0		1
Other		1		0

extent, predict length of treatment on the basis of severity of sickness, but the correlation was a weak one; to some extent he could predict the prognosis, as confirmed by the patient's estimate of outcome and the discomfort score completed by the patient after termination of treatment. However, the degree of sickness was not significantly related to the outcome. (If all 42 cases were used, correlation of health-sickness ratings with duration of treatment was -0.26 ; between prognostic score and therapist's outcome estimate $+0.43$.)

Comparison of Questionnaire-Returnee And Non-Returnee Groups

In evaluating the results from this small number of cases who returned the questionnaire, we must ask if the questionnaire-returnees were representative of the total treatment group. *Table 2* shows the comparison between the 18 who returned the questionnaire and the 24 who did not. Some differences do exist. The therapist tended to rate the outcome of the group that did not return the questionnaire below the outcome of the questionnaire-returnee group; they had lower mean and median prognostic scores, and they had lower mean and median numbers of therapy hours. There were significantly more schizophrenic diagnoses in the non-returnee group. Seven patients terminated unilaterally in the non-returnee group, but only one in the questionnaire-returnee group did. Two of the patients in the non-returnee group are known to have been hospitalized subsequent to treatment by the therapist; both of them terminated against advice. One patient in the returnee group was hospitalized on the recommendation of the

therapist. More of the patient non-returnee group received supportive psychotherapy and treatments other than psychotherapy, which substantiate the impression that the non-returnee group was somewhat sicker.

In other words, we cannot assume that the results for the total group of 42 would have been the same as the results for those who did return the questionnaire, since the non-returnee group seems to be a more seriously disturbed group of patients whose treatment course was briefer and less satisfactory. These sicker patients may have been helped more or less by treatment; this is not amenable to study by the methods used in this research.

Summary

The majority of patients who were seen by the author for four or more hours in psychiatric treatment in the community felt themselves to have been materially benefitted by the experience. In most instances the author tended to agree.

Rank order correlations demonstrated that there was some ability to predict the duration of treatment and the outcome. The severity of illness did not seem to be significantly correlated with final outcome. However, the rank order correlations were weak and demonstrated again that the prescription and rendering of psychiatric services is an inexact science at present.

This paper reports on only a small part of the total psychiatric practice of a private practitioner. A subsequent paper will attempt to evaluate the results of consultation and brief contact activities, which one cannot realistically call psychotherapy, but which hopefully contribute to the well-being of the patient.

MASS CASUALTY COURSES

Under the quota allotted the AMA Council on National Security, four spaces are open for civilian physicians to attend a course in the Medical Management of Mass Casualties to be conducted by the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Texas, on April 6-10, 1964. Physicians desiring to attend this course under this quota should write to the AMA Council on National Security, 535 N. Dearborn St., Chicago, Illinois 60610, no later than February 15, 1964.

Mental Illness—1963

Psychiatry in a Changing Society

NATHAN W. ACKERMAN, B.A., M.D., F.A.P.A.,* *New York*

THIRTY YEARS AGO, when I first began to work in the field of psychiatry, it was impossible to imagine what the next several decades might bring; there was no conceivable way to predict the wave of the future. Today, within a relatively short span of time, our whole way of life has become irrevocably altered. The transformation is, in fact, staggering. Today, the peoples of the world are experiencing cataclysmic upheaval. We might well wonder whether man, extraordinarily resilient as he is, can adapt to such an unprecedented rate of change. It is in this setting that we try to assess the development of psychiatry, leading up to its place in the contemporary western community. The scientific foundations of mental science and mental healing are undergoing a vast overhauling. The specialty of psychiatry is evolving into what is virtually a new profession.

Medicine, psychiatry, and the healing professions today carry an enormous burden. Changes in the philosophy and in the practice of medicine affect the development of psychiatry; the new trends of dynamic psychiatry influence the further progress in medicine. Both are affected by the extraordinary rapidity of social and cultural change; both are affected by the radically altered position of the healer in the modern community. His status, his responsibility, his style of work, his rewards, and even his punishments for failure are all altered.

What is strictly new in the social crisis of our era is the extraordinary pace of this change. Never before have things moved so fast. History passes before the eyes of a single generation. In such times, it is easy for man to lose his way; he ceases to be clear as to who he is and where he is going. Disoriented, he strives harder, runs faster, but almost without goals and without ends.

Age-Old Problems

Is the challenge to psychiatry and the healing arts unique? A century ago, a German physician voiced a similar concern: "There is no doubt that in most recent times, the number of insane is increasing. The increase in mental disease nowadays is real. It is closely connected to the conditions of modern psychiatry." Here is a judgment made a century ago, yet it is exactly true of our time, too.

* Director of Professional Program, The Family Institute, New York, New York.

Let us reach even further into history. Centuries before Christ, we find in China's earliest medical treatise the following: "They (the sages) were tranquilly content. They followed the teachings of their predecessors. Thus, how could illness come to them. Nowadays, people are not like this. They use wine as a beverage and adopt recklessness as usual behavior. They enter the chamber (of love) in an intoxicated

During a generation, psychiatry has evolved from a medical specialty having little recognition to a full-fledged partner in the healing-arts team. The role of each of the various types of psychiatric services are delineated and some ideas—erroneous, but generally accepted—are refuted.

condition. Their passions exhaust their vital forces. They do not know how to find contentment within themselves. They are not skilled in the control of experience. They devote all their attention to the amusement of their minds, thus cutting themselves off from the joys of the long (life). For these reasons, they reach only half of the hundred years and then they degenerate."

And so we see there were "playboys," or as the psychiatrist might say, sociopaths in those times, too. Centuries back there was the same preoccupation with the relations between a way of life and conditions of health and illness.

Philosophical Changes

The changes in medicine in a single generation have been dramatic: the decrease in infant mortality, the reduction of acute infectious diseases, the increased span of life, the greater prominence of chronic disease, the recognition of the role of emotion in disease, and the evolution of a concept of Comprehensive Medicine. Closely associated are the effects of specialization and group health practice. Health, once viewed as a privilege, is now demanded as a right. People expect and demand health services in the community, much as they take for granted the right to vote or the right of education for their children.

As Selye said, advances in medicine are of two kinds, technical and philosophic. The technical aspect, the search for knowledge, and the philosophic aspect, the search for wisdom, are but two phases of the study of life. The search for knowledge is a book-keeping of nature, but ultimately there comes a challenge to correlate facts into a unified system. To achieve this synthesis calls for creativity and wisdom.

In the words of Will Durant, "Every science begins as philosophy and ends as art; it arises in hypothesis and flows into achievement. Philosophy is a hypothetical interpretation of the unknown or of the in-exactly known; it is the front trench in the seat of truth; science is the captured territory and behind it are those secure regions in which knowledge and art build our imperfect and marvelous world. Philosophy seems to stand still, perplexed; but only because she leaves the fruits of victory to her daughters, the sciences, and herself passes on divinely discontent to the uncertain and unexplored." Philosophy provides the guide for the utilization of science as a tool for man's welfare. It is self-evident, therefore, that we ought not to worship science nor make of it a new deity.

Psychiatry Comes of Age

When we turn from medicine in general to psychiatry in particular, what do we see? Thirty years ago, psychiatry was the stepchild of medicine. The austere dignitaries of medicine treated psychiatry, a mere speck on the medical horizon, as a queer, cryptic branch of medicine, something on the edge, something alien, something to be regarded with suspicion. Unless medicine took care, psychiatry might contaminate the sacred dedication of medicine to science. By and large, psychiatry was isolated from the center of medical concern and removed from the community. Mental illness was regarded as an organic condition, mainly hereditary in its source. Medical men shared with lay people the then existing prejudices, the link of mental illness with "neuropathic hereditary taint," the idea that mental illness was incurable, and that mentally sick people were violent. For the safety of the normal community, the mentally sick were removed and quarantined in distant places. Thus, mental hospitals were relegated to rural areas, isolated in every conceivable sense from the main arteries of community life and from the centers of medical practice.

In my medical school days, when I expressed interest in psychiatry, I was teased and scapegoated by my instructors. On one occasion, a professor of physiology said to me, "What! You want to spend your life with the dregs, with the garbage of humankind? What a prodigious waste!" It is the irony of our time that this man has since become a professor of psychiatry.

Today, psychiatry holds a place of major impor-

tance in medicine and contributes its services to the very heart of the community. Mental health is, today, everyone's goal. There is widespread sympathy for the mentally sick. They, after all, are not so different from the rest of us. We find in ourselves the same traits we see in the sick, but we react differently. We appreciate now that sick people have well parts, and well people also have sick parts. The chasm between the sick and the well is not so deep as we once believed. We feel a greater affinity and closeness with the mentally ill. We seek the antidote to the mysteries, the myths, the irrational fears and prejudices that are associated with the image of mental illness. We concede now that heredity is not a first or even a main cause, that mental illness can be cured, and that violence among the afflicted is rare. Modern psychiatry has done much to nourish attitudes of tolerance, empathy, and understanding. Yet, beneath our surface knowledge and sophistication, there is still much in this area that links us with primitive cultures. It is not true in our modern enlightened community that we have dissolved entirely the magic beliefs and superstitions connected with the mentally ill. They persist to the present day, but are expressed in a more subtle, covert form. The advances of science and the borders of knowledge have simply driven them underground. There is still much in the deeper ambivalent attitudes of people today, in this age of enlightenment, that still views the mentally ill as saints or sinners. By identification, the same superstitious feelings are extended to psychiatrists and psychotherapists. They, too, may be either saints or sinners; they, too, may be killers, as well as life-savers.

Mental Health a Necessity

In the stress of modern life, mental health is no luxury. For the troubles of our time, the quest for mental health is not self-indulgence; it is sheer self-preservation. This is the age of anxiety; social breakdown and mental illness are widespread experiences. The normal people, as we call them, struggle to keep afloat in a community diffusely invaded by tension and fright. Still, we don't know what it is we fear. We have learned to master the physical environment, but we lag far behind in our understanding of our own inner nature and the nature of our changing human community. With increasing conviction, we recognize the significance of the connections between social health and mental health; between the stress of life and the diseases of civilization. The tensions of our time magnify the susceptibility to breakdown and illness.

Mental health is the nation's number one problem today. In the opinion of many, mental illness is increasing both in numbers and in severity. While some experts insist that the apparent increase in psychoses is more apparent than real, and is influenced by the

increasing number of people surviving past the age of fifty, other experts, however, consider this to be an inadequate explanation. But there can be no question regarding the mounting numbers of persons suffering from social breakdown and disorders of behavior short of psychosis. Neuroses are surely on the rise. There is increasing concern with those forms of disturbance which express themselves in the area of maladaptation of the individual in his community. There are the psychosomatic disorders, the problems of alcoholism and drug addiction, the rise in crime, especially among teenagers. Beyond that, there are the disorders of character manifested in feelings of loneliness, alienation, confusion of personal identity and disorientation to social change.

Epidemiology of Mental Illness

History marches on. It becomes unmistakably clear that it is not enough simply to treat the manifestations of mental illness in the individual. Increasingly, we recognize mental illness to be a disease of contagion. We are called upon to develop an epidemiology of mental illness. Normal people, so-called, are vulnerable and can be contaminated. The seeds of mental illness exist everywhere. Every person in the community is a potential carrier.

Several developments have served to dissolve away the traditional resistance to psychiatry: the contributions of psychoanalysis, the developments in biochemical research, the evolution of the concept of psychosomatic medicine, the advance of psychiatric services in the armed forces, the growth of social psychiatry, and, particularly, family psychiatry.

In present-day medical training psychiatry now has a status equal to that of internal medicine. The leading medical schools have departments of psychiatry with psychoanalytically trained psychiatrists functioning in close liaison with other departments of medicine. Modern psychiatry moves rapidly into the general hospital located in the very center of the community. Psychiatry is no longer a mysterious, isolated, dead specialty hidden away in the state hospitals far distant from medical centers and medical schools. In increasing numbers, psychiatrists leave the state hospitals and move into the very heart of the community. It is surely not the psychotic fraction of the population that has spurred this migration of psychiatrists; it is rather the people who are normal or near normal that place this enormous claim on the special help of psychiatric specialties. Nowadays, psychiatrists are needed to meet the ever mounting pressures for the services of psychotherapy, marital counseling, child and family guidance, and for coping with problems of delinquency and social maladjustment. In essence, psychiatry has been called from the service of the few to the service of the many. In the past generation, the whole character of hospitals for the mentally ill has

undergone a metamorphosis. The shift from routinized programs of custodial care to an active, dynamically oriented program of rehabilitation of mental patients is remarkable. The state mental hospitals have so changed in the last quarter of a century as to be almost unrecognizable. The standards of medical and psychiatric care of the sick have been tremendously improved, in private as well as public hospitals.

Psychiatry in General Hospitals

Of outstanding importance in this change of perspective is the entry of psychiatry into the general hospital. The present trend, in sharp contrast to the past styles of medical practice, points strongly toward the establishment of psychiatric units within general hospitals, both public and private. In 1939, only 37 general hospitals and 26 Veterans Administration hospitals throughout the country had in-patient psychiatric facilities. Six hundred and fourteen general hospitals admitted psychiatric patients in 1954. However, only 55 per cent of these had separate psychiatric departments with separate facilities for psychiatric patients. At the present time, as hospitals are enlarged and new ones erected, much thought and planning is devoted to the integration of psychiatric services. The real issue is not in any sense the proportion of psychiatric beds to the total bed capacity of the general hospital, but rather the search for a correct orientation to the evolving philosophy of illness and health and to the changing principles of medical practice. The traditional distinction between organic disease and functional disorder is not nearly so rigid as it once was; we no longer divide people so sharply as being either sick or well. The general hospital has the responsibility of keeping pace with the newer conceptions of illness and health and the evolving philosophy of health services for the community. The demand in the modern community for organized mental health services in the general hospital is tremendous. It is this public pressure that has induced medical staffs to adopt a more receptive policy with regard to the establishment of psychiatric units in general hospitals.

At the center of the community, there is need for emergency psychiatric service, for prompt evaluation and treatment of acute psychiatric disorders, and for organizing effective short term care for such patients. The general hospital has a special opportunity to improve the standards of care of psychiatric illness. It is challenged to evaluate the emotional factor in patients who are suffering from a wide assortment of physical complaints. It can accomplish a closer integration of the psychiatric contribution with general medical care. At another level, the general hospital is in a strategic position to serve as a way station for discriminating when such patients may be treated while living at home with their own families and when they must be

committed to an institution. If psychiatric therapy is available, a high percentage of such patients may remain within their homes, stay on their jobs, and be kept out of hospitals for the chronically mentally ill. A general hospital can study and treat the whole person, rather than merely intervene on the symptoms of illness. The medical staffs of such hospitals may come into meaningful contact with these people as individuals and with their families. A psychiatric program within the general hospital promotes greater understanding of the social factor in illness.

In the modern hospital, outpatient mental health services are essential. Such a clinic can provide care for acute conditions, can discourage chronic illness, can reduce the waiting lists of patients and lessen the need for long term psychotherapy and institutionalization. Such service has the incalculable merit of preventing isolation of the patient from his family. It has the opportunity to integrate a family care program which incorporates the most advanced principles of social psychiatry. As part of this general program, significant contribution toward health is provided by services that offer psychiatric first aid, day care programs, walk-in clinics, and emergency psychiatric services within the home.

Mind-Body Relationships

In these more advanced mental health programs, the mind-body problem receives special attention. Mind-body relations are better understood today. For a long time, the practice of medicine was characterized by a dualistic approach to mind and body. The empirical recognition of the closeness between mental attitudes and bodily reactions is as old as medicine itself. The interdependence between somatic and psychological functions has always been known. And yet, the dilemma of mind and body has plagued the whole history of medicine. In *Punch*, we find the quip, "What is mind? No matter. What is matter? Never mind." In our time, we no longer make this sharp distinction of organic and functional disorders, but lean toward the hierarchical grouping, (1) organic, (2) somatopsychic, (3) psychosomatic, and (4) functional.

Recent research demonstrates beyond question that psychological and social stress affect the functioning of the body organs; also, the strength, structure and functions of the organs assert a strong influence on thinking, feeling, and behavior. It is clear that organ functions are part functions, while the psyche represents the whole person adapting to a specific life situation. The psyche serves to unify the part functions of the organism. It lends to these part functions the quality of wholeness. "We see, hear, and feel not with our eyes, ears and skin, but rather through them." The relation between body and mind is the relation of the part to the whole. The task of person-

ality is to integrate the component parts of human experience. Thus, the integration of the person relates organ to organ, or organ to the psychic function, and both to the essential continuity of the relations of the individual with his environment. The relation between body and mind then is the relation of the part to the whole.

This perspective sheds light on the special problems of life stress which contribute to the causation of such disorders as hypertension, peptic ulcer, asthma, ulcerated colitis, skin disorder, and metabolic upset. Once established, organic changes in such conditions can, in themselves, become sources of further disturbances of adaptation; this is obviously a circular process.

A study by Hinckle and Wolff reports the health problems in New York City of three subcultural groups, the Italians, the Irish, and the Chinese. The findings of this study demonstrate that the struggle to adapt to the social environment may be associated with fluctuations in health. In this study, several questions were posed: What is the importance of reactions to social environment as compared to the effects of the various features of the physical environment, i.e., the infectious and toxic agents implicated in disease? Does man's adaptation to his environment influence only certain categories of disease? If so, what categories? What are the relationships between the three variables, body, mind, and social environment? In this study, clear-cut differences in general health were found in the three sub-cultural groups, the Italians, Irish and Chinese. The members of one homogeneous group showed greater risk of becoming ill than the others. A greater disposition to some kinds of illness was found as compared to others. Disturbances of mood, thought and behavior occurred as part of the struggle to adapt to environment. The people who had the greater number of body illnesses were also the ones who experienced the greater number of disturbances of mood, thought and behavior. There was a distinct parallel between the occurrence of psychoneurosis and psychosis and the incidence of body illness. The people with more frequent illnesses were reared in families with dissension and conflict. Adverse childhood experiences were correlated with a greater proportion of adult ill-health. Difficulties in adult interpersonal relations and heavy demands from the social environment were correlated with increased susceptibility to and greater frequency of illness. Good health does not necessarily mean generally superior adaptive capacity or constitution. Ill-health may be evidence of a poor adaptive capacity, but it is not necessarily so. The maintenance of health was related to the condition of persons existing in a particular life situation, one which satisfied peculiar needs and aspirations. Some people preserved a conditional health

through rigid restriction of significant interaction with the environment.

The causal specificity of such conditions as high blood pressure, peptic ulcer, and headache was related to an idiosyncratic factor in the reactions of different people to the same environmental threat. Insofar as people perceive the danger differently, they meet it differently. Some people run toward the danger, others away from it. Some fight, others flee. The conclusion is that it is the individual who must be regarded as weak or vulnerable, rather than a specific body organ. In any case, man's relation to his social environment exerts a major influence upon his health. The significant shift in point of view is that what was formerly regarded as a factor of Mendelian heredity, expressed in organ weakness, is now seen as social or cultural heredity.

Out-Patient Services

In the sphere of out-patient mental health services, there has been a remarkable expansion. Just as the center of psychiatric practice has moved out of the mental institution into the heart of the community, so, too, has there been a tremendous growth of out-patient psychiatric services. Such clinics may operate within the hospital or within other types of community organization, such as a social agency, maternity center, church, industry, or union. The development of out-patient psychiatric services for children is especially outstanding. Within a single generation, child guidance clinics have sprung up all over the country, at least in the larger communities. They are supported both by private and public funds. A more recent development has been the considerable spread of marital counseling and the emergence of mental health services for the family unit.

Dynamic Therapy

The practice of dynamically oriented psychotherapy has assumed a role of focal importance. Psychotherapy is continuously evolving and is increasingly influenced by the development of the basic science of psychodynamics. In the development of the theory and practice of dynamic psychotherapy, the following trends are noted: (1) recognition of the importance of a special kind of emotional fit in the coupling of a particular patient with a particular therapist; (2) the need for the patient-therapist relationship to be a live, human one, not routinized, mechanized or ritualized; (3) recognition of the principle that psychotherapeutic process involves a circular relationship; the behavior of the therapist must be as vigorously defined as the behavior of the patient. The dynamics of the therapeutic process are being re-examined as an interactional phenomenon. It is investigated by means of tape recordings, one-way screens, moving

pictures, and even TV tape; (4) recognition of the importance of understanding the dynamic relations between the individual and the group. Toward this end, various aspects of role theory are applied to the elucidation of these problems; (5) recognition of the influence of social class belongingness for the patient and also for the therapist, as this influences the experience of therapy; (6) recognition of the importance of flexibility in the application of therapy; (7) recognition of the limitations of insight, the need to test new ways of behavior in new kinds of action in life; (8) a modification in therapy induced by the changed conceptions of illness and health, and the recognition of the principle of the pathology of normalcy, that is, that sick people are not so different from healthy people, that every human being has elements of both illness and health; (9) recognition of the role of values in mental health.

Psychotherapy

In a parallel trend, there is better understanding of the criteria of change induced by psychotherapy. True change is expressed at all levels of perception, feeling, body expression and integration of personality into the appropriate role positions in the group, in other words, a new pattern of social action. The validity of the use of multiple forms of psychotherapy is, today, widely recognized. The types of psychotherapy fall mainly into four groups: psychoanalysis, dynamically oriented face-to-face psychotherapy, group psychotherapy, and family therapy. It is increasingly recognized, too, that no one form of therapy is complete in itself, since each exerts selective effects on different components of the illness process.

Psychoanalysis most potently affects the early disturbances of parent-child union, whereas group psychotherapy points its therapeutic influence to the adaptation of personality to social roles. Through the years, and gradually, the psychoanalytic method has been modified by the neo-Freudians—Sullivan, Horney, Fromm-Reichman, Fromm, and Alexander. The tendency now is to apply it in a more flexible manner to a range of personality types. Psychoanalytic therapy is the treatment of choice for the resolution of entrenched older forms of conflict and symptomatic disability. It may be conceived as serving to resolve childhood patterns of disturbance that block the social development and maturation of the individual.

Group psychotherapy came into being because of historical necessity. It was a necessary invention due to social-cultural change, changes in family structure and function, and corresponding changes in the prevailing views of personality, mental illness, and psychotherapy in general. It did not evolve, as some believed, because of the mounting community demand for psychotherapeutic services and the relative insufficiency of trained therapists to meet this demand. It

was not invented as a poor man's treatment. The evolution of group psychotherapy focused our attention on the fundamental interdependence of individual and group. It sharpened our understanding of specific deficiencies in existing personality theory and sharpened our recognition of the limitations of individual psychotherapy. It stirred a critical reassessment of principles of psychotherapy, group work, social work and education.

The development of psychotherapy of the family unit is the newest addition to our therapeutic armamentarium. It holds a rich promise. It represents the effort to interrelate the disturbance of one individual with the dynamics and mental health of his family group. It gives recognition to the contagion of emotion in family relationships. It highlights the phenomenon of multiple illnesses among the family members of a given unit. It underscores the principle that family relations can make or break mental health, that family not only determines the emotional fate of the child, but also plays a focal role in the stabilization of mental health of the adult member.

In psychiatry today, there are two main lines of development, the bio-chemical and the social approach. Through the years, there have been significant studies of the effects of metrasol, insulin, and electric shock therapy. More recently, there have been important investigations of various kinds of drug therapy; these studies have moved along two lines: the development of psychotomimetic drugs, like LSD 25, which produce a condition akin to an artificial psychosis; and the parallel search for a drug that may act as an antidote for these artificially induced hallucinatory states.

On the other side of the fence, there has been a radically new development in the adaptation of dynamic psychotherapy to the treatment of schizophre-

nia. It has been observed that psychotics have the capacity to establish emotional rapport with the therapist and that modified forms of psychotherapy can be usefully applied to facilitate the recovery process in schizophrenia.

Research in psychiatry has moved forward in several directions. There are numerous studies focused on the improvement of criteria for diagnosis, on methods of therapy, on prevention of illness and promotion of health. The bio-chemical approach and the study of the social factors in mental illness are no longer viewed as mutually exclusive, but rather as complementary. This dual approach can be seen in a great range of studies of psychosis, neurosis, psychosomatic breakdown, marital problems, disturbances in social adaptation, the psychopathology of family life, delinquency, and behavior problems in children.

Another avenue of research deals with the application of experiments in animal behavior to the clinical problems of human behavior. In this connection, David Levy said, "We have accepted our kinship with the animal world structurally and biochemically, but remain isolationists psychologically. On the one hand, we admit certain resemblances of animal behavior to our own; on the other hand, we regard our behavior as being infinitely more complicated and superior, so as to set us apart from the animal world." The experimental studies of animal psychologists have been very much influenced by the concepts of psychoanalysis; various studies have focused on frustration, conflict, anxiety, aggression, regression and withdrawal. Experimental production of neuroses in animals has aroused great interest.

And so we see, in effect, nothing less than a revolutionary transformation of psychiatry occurring within a single life span. It follows close on the heels of the social-cultural revolution which is the hallmark of our time.

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The "Kansas Plan"

The Change to a Unit System

GEORGE ZUBOWICZ, M.D.,* *Osawatomie*

THE JOINT COMMISSION'S question, "What to do with the large institutions?" and the program on the unit system at the last Mental Hospital Institute in Miami generated considerable interest in decentralized patterns of mental hospital organization.

This paper describes the experiences in planning and implementing the decentralization of Osawatomie State Hospital, a 1,500-bed hospital, into four semi-autonomous units, each serving its own geographical area. The preliminary evaluation of the effects of the change on patients, personnel, and the communities that the hospital serves is also described.

Before decentralization, in the summer of 1956, Osawatomie State Hospital was conventionally organized. It consisted of a 200-bed admission and intensive treatment unit to which all patients were admitted, and a 1,300-bed continued treatment service, subdivided into the usual geriatric, tidy, untidy, combative, open, and closed wards. Depending on their behavior, patients were continually shifted from one ward to another. Thus, the patients' problems were never really dealt with but simply transferred to another ward. Indeed, the most important motivating factor which led us to introduce the unit system was to eliminate this practice.

Osawatomie State Hospital, an institution for adult mental patients, serves 22 counties of Eastern Kansas, including Greater Kansas City. It is located in a rural community of 5,000, some 50 miles from Kansas City, and 85 miles from Topeka.

OSAWATOMIE STATE HOSPITAL

	1956	1962
Patient population	1510	1020
Total number of employees	700	686
Doctors	18	22
Social workers	11	12
Psychologists	7	5
Adjunctive therapists	28	24
Registered nurses	18	28
Patient per day cost	\$4.12	\$9.00

The physical facilities vary from 100-year-old Kirkbride structures to a 6-month-old, beautiful, cot-

tage-type, treatment unit. Much construction to replace old buildings is going on now and more is anticipated in the future.

From 1956 to 1962 the number of admissions per year rose from 400 to 801, while in these six years the total patient population decreased from 1,510 to

The Final Report of the Joint Commission on Mental Illness and Health has generated considerable interest in breaking down the barriers between the isolated mental hospital and the community. What are the reactions of patients, personnel and communities as a large, 1,500-bed hospital is decentralized into four semi-autonomous units, each serving its own geographical area? In accordance with the "Kansas Plan," Osawatomie State Hospital successfully planned and implemented a major conversion of its traditional pattern of organization; its experiences with the unit system are summarized here.

1,010. Last year 801 patients were admitted, and approximately the same number discharged.

Reorganization: First Phase

Because the reorganization was to be so profound, we agreed that the entire process should be done very cautiously and slowly, and we devoted considerable amount of time to the acceptance phase of the change. It took exactly one year from the decision to decentralize for the first independent unit to be created. The staff gained understanding and acceptance of the change by identifying with other institutions in Kansas. Osawatomie State Hospital is located only 85 miles from Topeka, a major psychiatric center in the middle west. All three institutions there—Topeka State Hospital, VA Hospital, and the C. F. Menninger Memorial Hospital—are organized according to the unit system. To acquaint themselves first hand with the unit system, our staff made numerous trips to these institutions in Topeka—doctors visited medical staff, psychologists conferred with psychologists, social workers with social workers, etc. In short, all pro-

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professionals represented in the psychiatric team, *including aides*, had an opportunity to meet their counterparts in Topeka and discuss with them the unit system. Representatives of various professions were also invited from Topeka to Osawatomie to present their views on the merits and drawbacks of the unit system. Through this process of exchanging ideas, our staff members gained an understanding of the philosophy of the unit system, and gradually they accepted it to the point of wanting to try it out at our institution. The Osawatomie State Hospital was now ready for a change.

At this point an important decision had to be made. Should we divide the hospital into four or five independent units in one big sweep, or should we do it gradually, step by step, unit by unit? Again, the staff agreed upon a conservative, slow course. It was decided to create the first two independent units simply by designating our admission unit as unit "A" and the rest of the hospital (1,250 beds) as unit "B." Thus, the entire continued treatment service, including the geriatric service, was to become a new unit.

Admission	Geriatric	Continued Treatment
200 beds Unit "A"	250 beds	1000 beds
	Unit "B"	

Because unit "A" (former admission unit) could no longer transfer its patients to the other parts of the hospital, the problems of vacancies in this unit soon became acute. This unit could create a vacancy only by discharging a patient directly. We insisted that it do just that. The only exceptions to that rule were geriatric patients. Because of the long-term hospitalization that geriatric patients usually face, we compromised and agreed that *temporarily* unit "A" could, after completion of the workup, transfer its new patients over 65 years of age to the geriatric building.

The immediate problem facing the newly created unit "B" (former continued treatment unit) was the establishment of an admission ward. This, to our surprise, was strongly resisted by its nursing personnel: "We cannot handle the newly admitted patients, we have no experience with such patients, and our facilities are inadequate to handle them," they argued. The newly appointed chief of this unit handled these anxieties by asking the nursing personnel for volunteers to staff the admission ward. These volunteers were sent for training to the admission areas on unit "A," where they had an opportunity to familiarize themselves with problems usually presented by newly admitted patients.

Shortly thereafter, we established the third unit, the geriatric service. Housed in a special 250-bed building, many of the elderly patients were either semi-infirm or totally disabled. Movement of these patients was practically nil, until one of the staff psychiatrists expressed interest in taking over this service. In a short time he established an admission ward on this unit and developed a very effective program for geriatric patients that included preadmission screening, active treatment, and placement outside the institution either with their families or in foster or nursing homes. All patients over 65 years of age, regardless of mental or physical condition, were admitted to this unit.

200 beds Unit "A"	1000 beds Unit "B"
250 beds Geriatric Unit	

Thus, one year after reorganization we had three independent units: two of acceptable size, "A" and "Geriatric" and one huge one, unit "B," that needed further subdivision to be functionally consistent with the unit system. We accomplished further subdivisions at 6- to 8-month intervals. The reason for this slow and cautious schedule was that we wanted personnel for future units to be prepared and to fully accept the change in order to function effectively as an independent team.

Only some two-and-one-half years after the idea of decentralization was introduced did we finally have five (including geriatric unit) semiautonomous units, each admitting, treating, and discharging its own patients. The transferring of problem patients from building to building ceased; the "passing the buck" routine stopped forever. The first phase of decentralization was completed.

Reorganization: Second Phase

After two years of operation under the unit system, it became more and more apparent to these units that success or failure of their programs depended greatly on the attitude prevailing in the communities that they served. The units realized that understanding cultural, economic, and social forces existing in the community has an important influence on the clinical programs. They became more and more interested in establishing closer relationships with the communities and continuously searched for techniques and methods to facilitate the relationship between hospital and community. Out of this search the so-called

"Kansas Plan" evolved. This plan calls for each unit to serve its own geographical area. Thus, each unit, in addition to being a small independent hospital within the hospital, has also become a small regional mental health center.

Prior to inauguration of the "Kansas Plan" each unit admitted patients in rotation from the entire hospital district, consisting of 22 counties. Now, because each unit is expected to admit, treat, and discharge patients only from its own geographic area of service, our hospital district has been subdivided accordingly.

Another big change was that each unit was to house only those patients whose residence was in the unit's area of service. This, of course, meant that the entire patient-population of our hospital had to be reshuffled. We decided that this was a good time to decentralize the geriatric patients and place them on the units that served their counties of residence. Thus, the geriatric unit, which until now represented a deviation from the philosophy of the unit system, had to be disbanded.

A mass migration of patients from one unit to another was the great dilemma facing us.

The listed hospitalized population at that time was 1,200 patients, of which some 700 were residing on the "wrong" unit and had to be transferred. To keep anxiety among the patients at a minimum during the transfer, we considered careful preparation of individual patients as the most important factor in the procedure.

A program was worked out in which each unit would exchange not more than five patients a day, making an average of twenty patients transferred daily throughout the hospital. To counteract continuous disruption of routine work, no patients were transferred on Fridays, Saturdays, or Sundays.

Daily team meetings were held on the units to discuss any problems that appeared in the course of the day's transfers. Each unit submitted a schedule with the names of patients and intended date of their transfer. Several days before the transfer, the doctor interviewed his patient to inform him of the plans as well as to explain the reasons for transfer. The transfers were also discussed by patients at the ward government meetings, which helped to relieve much of their anxiety and confusion. Groups of patients were taken to visit the units to which they were to be transferred. To acquaint the receiving unit with the new patients, the doctor wrote transfer notes for each, and sent them prior to the patient's arrival. As plans progressed, letters were sent to relatives of the patients notifying them of the anticipated transfers and explaining the reasons for and advantages of such transfers. Nursing personnel were exceptionally busy; personal belongings were gathered, checked,

and moved by aides. Patients who were unable to walk were moved in the ambulance or in private automobiles provided by volunteers or employees. Personnel in the clothing area found it necessary to stagger their working hours so that the marking machines could be in operation 12 hours a day. Social workers stayed after hours to write transfer notes for the receiving teams.

With few exceptions, patients showed very little or no overt resistance. All of them continued to attend their work assignments, and the number of elopements did not exceed the average. Some of the most chronic and senile patients showed signs of regression by becoming more untidy or unable to feed themselves, or refusing to participate in their previous routine activities.

There were also a few personnel problems. Some units were not accustomed to handling geriatric patients; therefore, special instructions had to be prepared to familiarize aides with the care of these patients. This was also true for some doctors who now had to face the responsibility of treating not only psychiatric but also some common physical ailments of these patients. Infirmaries were needed in all units to care for bedridden patients. The engineering and maintenance department invested much time in planning and reconditioning these areas. Throughout the change the enthusiasm and cooperation of all departments were remarkable.

After the Change

This major reorganization, in accordance with the "Kansas Plan," was completed nearly two years ago.

What were the effects of this decentralization on the patients, the staff, and the community that our hospital serves?

It is generally agreed that interpersonal relations are the most important factor in the hospital, both for treating patients, as well as for preserving, through good employee morale, the necessary therapeutic atmosphere. Now, this is impossible to achieve when one has a group too large to work with. It is perfectly absurd to think that any one individual (be he a doctor, a nurse, an administrator, or what-have-you) can establish and maintain any kind of meaningful interpersonal relationship with a thousand, two thousand, or, in some cases, three thousand people. The decentralized hospital avoids this, either partially or totally, because in a small, compact unit, it is possible to develop a family-circle atmosphere with a continuity of interpersonal relationships among patients, between patients and personnel, and among various personnel.

On such a unit the focus of the team's effort is not on the role of the service (acute, chronic, geriatric, continued, etc.) but on the patient. The patient,

whether acute or chronic, tidy or untidy, is and always remains the primary concern of the unit team. Let's take the case of the untidy patient. The only way a unit can take care of the problem of an untidy patient is to develop methods and techniques to help him. The usual answer, "There is absolutely nothing that can be done on this case," does not work anymore! This is because the monthly reports may reveal that the neighboring unit has considerably decreased the number of untidy patients simply by trying out some new methods of treating such patients. Under these circumstances, the pressure on the unit that has a problem of untidiness grows from day to day until some individual or the entire team decides to look into the matter. They may request help and advice from colleagues from other units, or proceed with their own solution of the problem. The same is true with other problem patients, such as those who are disturbed, suicidal, or have character disorders. In fact, in decentralized institutions the sickest patients seem to consume most of the time and effort of the staff, which is the way it should be.

In the beginning of decentralization, the units feel too insecure to handle all of the patients' problems and will attempt to revert to the "buck passing" technique. For example, the administration will frequently be requested for permission to transfer "difficult" geriatric cases to another unit, because "it has better facilities" or "more competent staff" to deal with these particular cases. The appeal is made, of course, in the name of "what is the best for the patient" but actually it is only a reflection of the unit's inability or unwillingness to cope with its own problems.

The administrator should, in such a case, take a very firm stand and deny permission for a transfer but at the same time offer his assistance to deal with the difficulty. He may suggest that one unit ask for help from another, or put forward an idea of special consultation from outside. All this gradually will force the units to rely on their own ingenuity and efforts. They must, however, retain the feeling that assistance may be requested and obtained whenever necessary.

There was one problem that was anticipated but did not materialize: equitably distributing the personnel among units. This task is not easy, due to the many variables that come into play, such as size of units, differences in admission and discharge rates, and number of infirm patients.

As the nursing personnel (some 350 of them) seemed primarily concerned with redistributing personnel, we asked them to come up with the solution to the problem. After many meetings they came up with a formula that was later adopted by the rest of the hospital, and is still being used for the annual re-

adjustments in staffing patterns. The nursing personnel felt that there were three factors that primarily determine the unit's workloads: (a) the number of resident patients, (b) the number of admissions, and (c) the number of infirm patients who need special care and attention.

They said that each of these factors is equally important. Thus, in order to arrive at the staffing pattern of a unit, one has to prorate the total number of available personnel on the basis of each of these three factors, add, and then divide the total by three. A hypothetical example is given below for the distribution of 60 employees between two units, "A" and "B."

	Unit "A"	Unit "B"
No. of patients	150	150
No. employees	30	30
No. of admissions	50	25
No. employees	40	20
No. of infirm patients	46	23
No. employees	40	20
Total no. employees	110	70
Divided by three	36.7	23.3

Thus, unit "A" would receive 37 of the 60 available employees, and unit "B" would receive 23.

Another area of conflict is the admission rate. It is to be expected that at any given time there may be an inequity among units as far as the number of admissions is concerned. Pressure will be exerted on the clinical director and the superintendent to have the staffing pattern adjusted. "We need more doctors on unit 'B' because we have more work to do" will be heard at times. Our staffing pattern is adjusted only at the end of each fiscal year, when reliable statistical information is available. This is not an arbitrary decision but something that is agreed upon by all units. Nevertheless, in the course of a year, occasional complaints by various units will be registered. To withstand the pressure of such complaints is not an easy task for the clinical director and superintendent. After a while, however, a healthy competition among the units develops and at their monthly meetings, unit chiefs begin to point with pride to better admission records than those of their counterparts.

Staff vacancies on a unit present frequent problems, particularly when a key position (such as that of a psychologist, social worker, or a doctor) becomes vacant. The unit will demand immediate readjustment of the staffing pattern. "Why should we have fewer doctors than unit 'B'?" will be their complaint. Again the superintendent and the clinical director are under pressure, which they must resist. They should assure

the unit that they are doing their best to recruit someone to fill the vacancy, and that they are confident the unit will be able to cope satisfactorily with the work load. We have a slogan at our hospital, "If you want to be independent, you must be willing to take the good of it with the bad."

The transfer of personnel between units is extremely uncommon, but if done, it is a result of a mutual agreement between units involved.

Common Administrative Problems

As in any other hospital, there are as many administrative problems in a decentralized hospital, but they are perhaps of a different nature. Some of the most common ones are:

(1) Delegation of authority to the sections must correspond to responsibilities given them. If we expect them to function as *completely* independent units we have to give them *complete* authority to do so. The delegation must be *in fact* and not in theory alone. The superintendent and clinical director must have the strength to do this and to support this decision, particularly when things are not going so well. Mistakes have to be expected, particularly in the beginning of decentralization and this is when an offending unit needs the superintendent's support and understanding the most. An administrator who has difficulties in delegating authority will find a decentralized organization most difficult and frustrating to run.

(2) A second, important administrative problem of the unit system is an increase in areas of dual responsibility and dual loyalty. In every hospital, areas of dual responsibility exist and usually are breeding grounds of interpersonal conflicts. In the unit system these areas of potential conflicts are more numerous. For example, the social worker and the psychologist are in a position of dual responsibility, which is not the case in the conventionally organized (departmentalized) hospital.

Clinical Director

(Sections)

(Clinical Departments)

Section Chief

Physicians

Psychologists

Social Workers

Adjunctive Therapists

Nurses

Aides

Section Secretary

Chief Psychologist

Chief Social Worker

Coordinator of A.T.

Chief Nurse

Chaplain

Registrar

(3) As the result of changing supervisory relationships under the unit system, the role of the department head also undergoes a fundamental change. In departmentalized organization the department head has a secure feeling of being able to exert the pressure of line authority when this seems to be advisable. Under the unit system this is not simple. This exertion of direct authority may disturb the team relationship existing between the department head's supervisee and the unit's team. "What is more important, the team or the department?" This is the question that must frequently be taken into account by the department head. Thus, his role gradually becomes more and more advisory, conciliatory, or supportive. This change in the supervisory power is quite threatening to some individuals who are accustomed to functioning along the line of direct authority only.

The roles of other professions also change under the unit system, and they need to be reevaluated and redefined. For example, the unit nurses will have to assume the responsibility for distributing and assigning nursing personnel. No longer is this done from the central nursing office. This may create problems on those units where the nurse is unable to accept this change in decision making.

The clerical personnel will be affected also. Additional tasks created by decentralizing functions, files, and records put additional and new responsibilities on the clerical staff. Reclassification and retraining some members of the clerical department may be necessary.

Decentralized Hospital and the Community

The effect of the community on the unit and of the unit on the community comes into focus as soon as the admissions commence to be handled by the unit doctors, social workers, and their secretaries, putting all of them in direct communication with the community. At Osawatomie State Hospital each unit team initiated a program of visiting their counties and meeting probate judges, county attorneys, welfare officials, sheriffs, and others, in order to become personally acquainted with them, to inform them about the unit's responsibilities and programs, and to invite their comments and suggestions for better service to the community.

Communication with private physicians in the community has been improved through such methods as routine letters of a patient's progress, personal visits, telephone contacts, and invitation to patient-staffings.

In time, the personnel on the unit become quite familiar with the geographic distribution, resources, and socioeconomic background of their area. Community services such as public appearances, consultation, and lectures are now being handled by the staff of the respective unit.

As the units become increasingly independent they tend to be more closely identified with their own patients and the districts that they serve. Unit personnel who were previously segregated have an opportunity to acquire a broader experience in a variety of psychiatric problems, caring for male, female, geriatric, etc. Serving its own district, each unit has to face individual problems.

There is an increasing tendency for healthy competition among the units, which improves their inpatient programs and provides for better service to their districts. Patients also identify more with their sections. They seem to find support in the fact that they have something in common with other patients by coming from the same cultural and geographical area. Community organizations have been more responsive to the requests of our volunteer department because they feel that the service rendered is for patients from their own district. Gifts are now donated not to the hospital but to "our unit."

Summary

What are our experiences with the unit system so far?

The ultimate goal of the "Kansas Plan" is to completely integrate hospital services with community services and resources in the field of the mental health. We have not yet reached this phase of development. So far we have accomplished complete intrahospital reorganization which, in our opinion, will facilitate the community phase of the "Kansas Plan."

We have observed, as the result of the internal reorganization, the following advantages:

(1) The unit system encourages development of proper interpersonal relationships between patients and physicians, between patients and nurses, and between patients and aides.

(2) It fosters continuity of service because it stops the "pass him on" technique. Each patient remains the responsibility of the unit for as long as he is in the hospital. The notion that the solution to the patient's problem is to pass him on to another service does not work anymore.

(3) It fosters integration of professional efforts within the framework of the unit team.

(4) It improves communication within the unit.

(5) It better defines the relationship between authority and responsibility.

(6) It utilizes personnel at the highest level of competency.

(7) It emphasizes the importance of the community attitudes on clinical programs, and fosters among personnel the development of the sense of social responsibility.

(8) It provides better opportunity for professional and administrative growth of the personnel.

(9) It encourages friendly competition among units.

(10) It provides a natural setting for experimentation with a built-in system of comparative (inter-sectional) evaluation.

Some disadvantages of the unit system are:

(1) It is difficult to administer because of the widening span of control.

(2) It is more expensive to operate.

(3) It requires more and better qualified personnel.

Closing Remarks

A final word of advice for those contemplating the transition to the unit system.

The above decentralization process took place in a special setting. A number of factors such as size of hospital, number of personnel, and physical facilities favorably influenced the reorganization, its implementation, and its final outcome.

In other circumstances, however, the constellation of these factors may be quite different and not as favorable. For example, how would the size of an institution affect the change? It is one thing to subdivide a 1,200-bed hospital, and quite another a 6,000-bed one. What about the physical plan? Can the old Kirkbride structures be remodeled to adequately house infirm patients? What about the minimum staffing requirements to permit decentralization into a unit system? Will the geographical designation of service by the units re-create within the institution social ghettos that exist in some communities?

These are only some of the pertinent and important questions that will need to be answered by all those considering the change.

The final responsibility is up to the superintendent to present these questions so that they are viewed by his co-workers, not as unsurmountable obstacles, but as a challenge to explore new administrative ways of dealing with the problems of providing better care to hospitalized mental patients.

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Troubled Children

A Community Approach to Delinquency Prevention and Control

STUART C. AVERILL, M.D.,* *Topeka*

THE FIRST AND MOST IMPORTANT task facing any community is to create and sustain an atmosphere in which children can grow and develop their own resources. Children cannot grow in an environment that inhibits and stifles growth—where the struggle for survival so preoccupies their minds and hearts that they have no energy left for play, for learning, or for constructive work. The human child has tremendous strengths, tremendous potentials, and tremendous resources, which, when nurtured, can overcome many difficulties. It is not only important to consider methods for the early detection of latent delinquency and to consider ways of providing psychiatric treatment for juvenile offenders, for unwanted children, and for emotionally disturbed children. It is even more important to give serious thought to a lesser, yet far more difficult work—ways in which communities may adopt as a first step and a first goal the reduction of the hate, trauma, and neglect to which they subject their young.

An example of the magnitude of this community problem is given by Dr. James Conant in a speech to the National Committee for Children and Youth, "Social Dynamite in Our Large Cities." He points to the appalling number of school dropouts in slums of our large cities, and to the fact that these youth are unschooled, unskilled, and untrained. There are no jobs for such youngsters and there are no vocational schools. He puts the problem squarely to the community and to its schools. These young people are very hard to handle, the school and community are often relieved to have them go away, but they pile up in our cities and represent social dynamite.

Foster Home Care

Another measure of the community's level of interest in its children is provided by the way in which it cares for its dependent and neglected children and by the way in which it provides foster home care for children in need. I would call your attention to Leon Eisenberg's article "The Sins of the Fathers: Urban Decay and Social Pathology," which shakes any complacency we may have about the over-all effectiveness

of community programs for foster care. He states, "Clinical study of emotionally disturbed foster children raises disquieting questions as to the adequacy of the care foster children are receiving from understaffed public agencies. Members of the orthopsychiatric professions bear a heavy moral responsibility,

A community's level of interest in its children, which is reflected in the attitudes of boys at Boys' Industrial School, is shown in the way it cares for its dependent and neglected children. Another measure is found in the many ways it works to develop and maintain an atmosphere which furthers optimum opportunities for youths' personal growth and development. The coordination of the efforts of all juvenile correctional services, of community welfare agencies, and of youth activity programs and organizations is essential. The problem is not only helping troubled children, but also working for total community understanding, support and action for meeting the needs of all young people.

bility, precisely because of our scientific knowledge of the needs of children, to provide leadership for community action, to correct social and institutional hazards that impair the physical and mental health of children. . . . It is from the disadvantaged children in blighted urban areas that retribution is demanded for the sins of society that spawns them and their habitat." He reports on the cases of 400 children who had to be placed in foster homes because of severe family breakdown and for whom psychiatric consultation was later sought. More than half of these children had three or more placements; one-third had four or more placements; and one-fifth had five or more foster placements. They had become difficult and unwanted children. By the time they were studied, 70 per cent showed persistent and severe aggressive behavior. There was academic retardation in all of the children with one-half showing serious difficulty in school. It was noted that the problems of

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many of the children were multiplied by the hostile reception from school authorities and teachers. There are one-fourth of a million children over the country who are in foster care with 75 per cent remaining in care throughout their childhood. Dr. Eisenberg comments that the agency supervising the placement of these 400 children is, "An agency administered by good people whose caliber and heart would compare favorably with most. But it is a public agency, which in the United States means it is inadequately funded, constantly beleaguered by ignorant critics, fighting to maintain itself marginally. What happened to these children was written into agency function by budgeting decisions determined by the community's indifference to the fate of foster children." He further comments, "Once we recognize the harsh realities of contemporary foster care, it becomes relevant to wonder whether we are not too ready to remove children from their homes. We must ask if we could do more by enriching ADC programs, public housing, health services, marriage counselling, family agencies so as to preserve the family of origin." In short, in this area of foster placement, as in the area of school dropouts, the burden of responsibility lies with the individual community.

Industrial Schools

Over a decade ago, Albert Deutsch published a book titled *Our Rejected Children*. He described the deplorable abuse and mistreatment of juvenile offenders sent to state training or industrial schools. Beatings, duck walks, needle showers, solitary confinement and other forms of humiliation and degradation were found to be the all-too-common lot of these boys and girls. Violence and sexual perversions were rampant as a continuation of the only world these children know. His work should have been the call to arms, the call to indignation, the call to action! I must tell you that progress has been dreadfully and painfully slow and that these conditions continue to exist in far too many state institutions. How long has it been since you have looked into the conditions at your own state institutions for delinquents? These institutions serve no useful purpose as a warehouse for "bad" kids. They are only effective if they serve as an adjunct to and a resource for the home community.

There are an estimated half-million delinquents in our nation. At the very least we should treat these troubled and institutionalized children in a way which will not make them worse. Even if we can't guarantee them psychiatric treatment, let us not compound their problems, dilemmas, and hatreds.

Overcoming Hatred

We must ask ourselves why we haven't acted to correct more of these problems. Surely there is some

awareness of this compounding problem of hatred, trauma, and neglect to children in our democracy sworn to equal rights and equal opportunities. Why don't we behave in a more positive and helpful way to the children described here? As a partial answer, I would like to share with you some of our thinking at the Boys' Industrial School with respect to the problem of the institutional reaction to the hatred of children. This statement was prepared in my attempt to explain the phenomenon of an outburst of runaways after a period of no runaways. I believe that many of the same mechanisms operate in the non-institutional community—within social welfare agencies, within the staffs of juvenile courts and probation services, within our schools.

"The most devastating, demoralizing, and difficult problem that well-meaning, even dedicated, workers with delinquent children and youth encounter is the hatred within the children. Good intentions on the part of the adult are met with anger, even blind hatred—with younger children it presents itself as temper tantrums; with older children it may present itself as a near-homicidal episode with threats to kill anyone who comes near or as a self-destructive—running away, stealing cars, or breakins. This kind of child, his mechanisms and dynamics and some methods of treating him are detailed in Fritz Redl's *Children Who Hate*."

What is the difficulty for the child-care worker, the teacher and the clinician in coping with this problem? It is the reaction to the hatred within the child. In some ways, this hatred, discouragement, and hopelessness within the child stimulates deep feelings of helplessness and frustration in the adult who is trying to help the child deal with this hatred. Why? Partly, we are uncertain that we can contain the hatred to the child and feel the responsibility for any consequences. Partly, dealing with the hatred in the child awakens in us long forgotten and repressed hatred. Very often, such hatred on the part of the children stimulates strong retaliatory mechanisms on the part of adults. These then become the children nobody can work with, the children nobody wants. Such children stimulate the response, "Send him to jail"; "He ought to be locked up"; "Send him to the hospital"; "This boy will never change"; "He's going to kill somebody," or "I'm afraid this or that will happen to me." We are tempted to deal then with the hatred in the children in the same way that we deal with our own primitive hatreds—repressively, by running away, by hiding it, by hollow reassurances, by denial, or by saccharine phrases.

All of these forces tend to interfere with our good clinical judgment and the values of our treatment program. We begin to feel guilty, to feel exhausted, to feel inadequate, and eventually, we do become

weaker as our energy goes into our own internal struggles. Soon we reach realistic limits to our ability to cope with such children.

We have wondered about the phenomenon of increased aggression on the BIS campus when boys no longer run away. At these points, the boys and the staff feel strong enough to cope with the internal hatred of the boys. Soon the hatred becomes apparent to the staff and the powerful unconscious mechanisms we use to cope with hatred within ourselves come into play. Some of these mechanisms involve retaliation toward the boys in the same way as we punish ourselves for our own hatred, some involve impulsive action reflecting a wish to relieve tension and avoid the problem, some involve overlooking and denying the whole area of aggression. All of these mechanisms tend to compound the problem for the boys.

Toward the end of the period of no runaways, there were many comments and statements that the staff was under a great deal of pressure—"Too many kids"; "Too many admissions," or "Some kids are too sick or too bad to be treated here." There were frequent flare-ups of temper among staff members about various decisions and ideas which might have been handled with more ease in other times. Signs and symptoms of increasing stress and frustration were rampant in the organism of the institution. What was the problem? The problem was that the control and modification of our own instincts toward retaliation required a tremendous amount of energy and work that truly did sap our strength. At some point, we conveyed to the boys that we had become too weak to help them cope with their hatred.

The problem of coping with internal hatred is conveyed from the boys to line staff, and from line staff to supervisors who must attempt to deal with this problem and its ramifications with me. The problem is not that this is so; this is the nature of supervision. The problem is that most of this communication is unconscious and governed by laws that aren't immediately available to us. If staff are unconsciously conveying this problem to me, then there is greater danger that I will respond with some elements of retaliation. This will be conveyed by supervisors to their staff, who will in turn convey it to the boys with whom they are working.

I think this states the problem we face rather clearly. It is not one we will resolve by administrative maneuvers, by arguing and back-biting among ourselves, or by ignoring these powerful forces within the boys and within ourselves. It will be resolved by facing clearly the problem, by clear insight into our functioning, and by reaching a greater degree of inner strength and self-confidence.

Problem Extends to Community

The problem that is here described for the institution is also found in the community. In the community, it is more diffuse and more difficult to see. The traumatized and neglected child will strike back at society. The community will all too often respond to the hatred of the child in kind, either retaliating or ignoring the sources of the child's anger, and a vicious cycle will begin which frequently ends in severe anti-social behavior.

But there are lights among the shadows. The pioneering work of Sheldon and Eleanor Glueck in developing a social prediction scale for the early detection of potentially delinquent children offers great promise in helping us to determine which children desperately need our attention. By careful study of the young child and his family, the following crucial factors are evaluated: (1) Discipline of the boy by his father; (2) Supervision of the boy by his mother; (3) Affection of the father for the boy; (4) Affection of the mother for the boy, and (5) Cohesiveness of the family. These factors are then weighed, and, by using statistical analysis, one can quite accurately tell which children are highly likely to become delinquent long before any overt delinquency occurs. These are studies which can be conducted by a trained social worker at relatively small expense. They show a high degree of correlation with finer and more extensive psychological and psychiatric scales developed by the Gluecks. These scales use Rorschach character traits determined by psychological testing and psychiatric personality traits determined by psychiatric interviews. The social prediction scale is more easily obtained and does not require as high a degree of training to determine. A number of studies have shown the social prediction scale to have a high degree of validity with different cultures, with different racial groups, and with girls. A study is presently in progress in New York City conducted by the Youth Board. This involved the application of the social prediction scale to a group of about 225 first-graders beginning in 1952. Results after four years indicated a high degree of validation. An active attempt is being made to provide counselling for the families and guidance to the children showing statistical evidence that delinquency lies ahead. The initial results are felt to be gratifying in this practical use of the Glueck prediction scale.

Help From the Community

Recognizing that truancy is a frequent precursor of delinquency, New York City has developed "all day schools" to provide comprehensive and practical education.

The Chicago Area Project is an attempt to help a high delinquency neighborhood raise itself by the bootstraps. It recognizes that social cohesion and a community spirit cannot be organized or developed from outside the community. It must come from the natural leaders of the community. Considerable autonomy must be allowed by helping agencies.

Brand new areas are opening up in the approach to the total family. We are using family interview techniques at Boys' Industrial School with some success. Nathan Ackerman has pioneered work in family group therapy. An experimental approach to the family has been made by a clinical group in Galveston, Texas. The total family has been seen intensively, ways of reaction uncovered, and attitudes shifted over a two- or three-day period. For the delinquent, adolescent boy, strengthening and supporting his father through casework services may be lifesaving in providing an adequate identification figure.

Throughout the literature it is stressed that little progress can be made in the prevention of juvenile delinquency without a large scale, pervasive, continuous approach designed to bring to bear all the resources of mental hygiene, education, and religious and ethical teaching upon this central issue. In reports from the New York City Youth Board, active reaching out to the delinquent and his family is stressed. The community has not only the right to protect children, but also the responsibility to take action in their behalf.

In looking over reports of work in the field of delinquency control and prevention, it is amazing that much can be done with little—little in terms of some of the resources that we could bring to bear, not in terms of the effort and dedication of the individuals involved. Kobrin reports on his work with a street corner gang in Chicago. The culture is described as one in which little parental supervision is provided. There is a settlement house in the area. Gangs are common. Nearly all children belong to gangs with one gang emerging dominant in late adolescence. He described the following patterns of shared behavior: a conscious flouting of adult authority in general, and conventional authority in particular; a readiness for physical combat; rejection of the discipline of school; a tendency to sexual aggressiveness; and delinquency. The approach of the group worker was clean and simple and it produced very good results—"In general his approach to the group was to accept it on its own terms. He avoided moralizing on the subject of delinquency, fighting and rowdiness. However, his acceptance of these activities was balanced from the very beginning by his efforts in three types of activities, in which he took clear initiative, using every form of

persuasion at his command. These were in the areas of school attendance and adjustment and the related problem of career choice and preparation; relationship with girls; and the parochial and limited life perspective common to residents of the neighborhood. In the area of school adjustment he intervened vigorously to urge appropriate school choices, and to deal with the teachers and parents of boys who were threatened with failure or expulsion. In matters of sexual adjustment and maturation his major effort was to define negatively the current neighborhood modes of relationships to girls and to persuade the boys of the value of the more conventional forms of courtship and approach. As a third item of program, he spent a good deal of time escorting the boys, in small groups, on visits to strange and distant parts of the city, including its commercial and industrial centers, its museums and universities, and its wealthy suburbs in order to provide some basis in experience for the development of a perspective within which to locate the life of their own neighborhood." The focus was entirely on "reality" problems of the person, marshalling existing institutional resources of the neighborhood, and access to and effective use of competent psychiatric consultation. This wasn't a traditional psychiatric approach, and the psychiatrist was careful to consult rather than to supervise or direct so as to leave spontaneity, intuition, and freedom of action to the group worker. It was noted that this approach had an effect only on the group involved and didn't extend to other gangs or groups, although there was some effect on the younger age groups.

In a recent *Saturday Evening Post* article, William Wyant, Jr. reports on a remarkable achievement taking place in the schools of a blighted urban area in St. Louis. A group of 23 elementary schools, led by Samuel Shephard, Jr., has succeeded in the last four years in raising the student achievement level as much as two years, measured at the eighth grade. This has been accomplished by hard work, high morale and excellent leadership. Shephard demands first rate performance from his students. This is supplemented by frequent group meetings with parents. These meetings are inspirational, support the parents' wish to give their children the best in education, and give practical and concrete suggestions as to how to carry out this wish. They stress that education is the way out of poverty. Children are placed according to ability and expected to function to the best of their ability.

A successful counselling service aimed at the prevention of juvenile delinquency has been developed in Brazos County, Texas. Brazos County is a middle-sized community of 50,000 persons in 583 square miles. The work in this county was accomplished by

a single trained psychiatric social worker who spent half-time with the juvenile court in probation work and half-time with a youth counselling service which was entirely separate from the court and to which referrals were voluntary. Of those cases on probation from court, 82 per cent had no recurrence of delinquency after the first contact with the court, and another eight per cent had none after their second. Psychiatric and psychological consultation were available one day a month. This project was begun under a public health grant. Later, two trained psychiatric social workers were obtained, one for the court and one for the voluntary counselling service. The project was underwritten from local funds as a service that the county couldn't afford not to have. From their experience they concluded that the social worker must be accepted as an integral part of the community just as physicians are. Continuing planned public education is essential. Except in rare cases where a youngster appeals for help on his own, no child referred by minister, physician, teacher, welfare worker, relative, or neighbor should be accepted for treatment at the Youth Counselling Service unless his mother or father comes with him for the first appointment. No troubled parent or troubled child should be refused treatment. The only danger in the program is not reaching children of uncooperative or neglectful parents. It should be added here that a good community detention home with active reaching out to parents and children through the juvenile court might have corrected this problem. The Texas State Department of Health pamphlet, "Talk Is Cheaper," which described the Brazos project, concludes with the statement that the Division of Mental Health of the Texas State Department of Health will send one of its staff members to give consultation service to any community interested in setting up delinquency prevention services similar to those in Brazos County.

These examples indicate to some degree the kinds of work undertaken sporadically over the nation. They point to the fact that we have already detected, and often early, more juvenile delinquency and emotional disturbance in childhood than we are yet willing to face, let alone treat. They also point to the fact that methods of prevention and control have been developed and are available if we are willing to strain harder, to give public support to implement what we already know.

What can a community do to face the problem and to devise methods of combating it? What can a community do to face the challenge—even if we cannot treat all children who need treatment, what can we do to reverse the tide of mistreatment, hatred, and mismanagement which compounds the problem for the children of our streets?

Mental health societies can become actively inter-

ested in the problem and become informed about their local communities. No one can prescribe specifics without intimately being familiar with the patient.

Every city has its commissioner of streets and gives great attention to its paving and streets. Why not establish a Youth Commission at the city level to coordinate all work with youth? There is a tremendous complex of youth services available in any large community. Despite great individual effort, they may work independently and never give one another the benefit of their support and special talents. A central agency is needed to provide case-finding, coordination of special services, and follow-up of each case—so that any child served by any agency is tagged and followed, and the many available services are brought together in focus on their work with any given child. What is the complex of child care services in your community? The juvenile court, the probation staff, child guidance clinics, child psychiatrists, detention homes, settlement houses, social welfare agencies dispensing ADC and relief, the academic schools, the trade schools, the recreation commission, the city board of health, the public health nurses, the churches and their youth programs, United Fund agencies such as the Boy Scouts, YMCA, Boys' Clubs, and a host of civic organizations attempt in some way to be helpful to youths. Just enumerating these agencies, let alone considering the coordination of the multiple services they provide, can make one a little dizzy.

Let us scan some of the essentials which are part of this complex and how they might interrelate.

Many child guidance centers and child psychiatrists are overwhelmed with work. Many have waiting lists for evaluation and even longer waiting lists for treatment. It is strongly suggested that consideration be given to devoting more time of public and community guidance centers to supporting and consulting with those in the front lines of day-to-day child care, and to actively reaching out into the community by providing service to the school teachers, to the juvenile courts, to the probation officers, and to the social welfare workers. Prevention can only be accomplished by strengthening those who are working day by day with potentially disturbed and delinquent children. Methods of family therapy and group psychotherapy should be developed as therapeutic tools and exploited wherever possible. There are many indications that group psychotherapy and supportive counselling (trouble-shooting or problem-centered treatment) may be the treatment of choice for many troubled adolescents. If we psychiatrists working with children insist only on ideal treatment for the few because that is the least compromise with principles of good treatment, we may find ourselves in

somewhat the same position as if we faced an epidemic of pneumonia and decided not to treat the multitude of patients because we had only enough penicillin for a few. As Dr. Eisenberg has pointed out, psychiatrists, psychologists, and social workers have a moral responsibility to offer the benefit of their knowledge and skill to the community at large.

Schools' Role in Delinquency Prevention

The Gluecks have emphasized the importance of the school in delinquency prevention and early discovery of children with problems. They offer a method of determining which children will need help through use of their social prediction scale. They suggest a rich variety of school experiences with teacher training in dynamic psychology and opportunities to participate in clinical conferences. School authorities have to recognize the teacher's role as parent substitute and ego-ideals in the case of many children. They suggest the possibility of more young adult males serving as teachers in the lower grades and the possibility of more husband and wife teams as teachers. A higher social valuation of the role of the teacher is indicated. Conant stresses that the educational experiences of youths in a heavily urbanized and industrialized free society should fit their subsequent employment. He further suggests that guidance officers, especially in the large cities, should be given responsibility for following the post-high school careers of youth from the time they leave school until they are 21 years of age.

We have 200 children at the Boys' Industrial School, almost all of whom are educationally retarded two to five or more years. When placed in departmentalized classes where they can function at their level of achievement, rather than bowing to social promotion, and when their education is supplemented by prevocational or vocational training, many of them are able to resume learning and to bring up their grade level one to two years in a six to eight month period. Heavy emphasis is placed on the practical value of learning to read, write and figure. It is our impression that such an approach could and should be duplicated in the public schools with more special classes, remedial classes, and vocational courses beginning at a lower level. Stigma needs to be removed from the special classes for children with learning problems. In order to do this, teachers will need a great deal of support from the community and consultation from those trained in the behavioral sciences—not to help them teach, but to help them individualize and develop methods of teaching accommodated to the troubled child. The disturbed and troubled child may need to be kept in school at great cost, simply because his need for specialized teaching is much greater. He is too often the first reject. Education should be

offered in periods of detention, which further emphasizes the important place society gives to educational training.

Follow-up

The police youth bureau, the juvenile court, and the probation staff should have ample consultation. Every child who comes before the court should have as complete a psychiatric, psychological, and social investigation as is possible. The probation officer should be given consultation and his case load should be kept within reasonable limits. Careful follow-up of all cases is essential. Detention homes for boys and girls should be staffed by warm people who are supported and assisted in their difficult work with troubled children. Case conferences should be held to plan the goals of separation from the family and detention.

The community well-baby clinics, public health nurses, and social agencies serving indigent families and dispensing ADC are in a position to detect conditions which will become detrimental to children. These facts could be referred to the youth commission and intervention could be planned using these people and these agencies who first see the potential problem. It is at these times that approaches geared to strengthening the family and its resources could be made.

Coordination of recreation and athletic programs is essential. All too often children needing these activities are left out or are so disrupting to the program that no one wants them around. Special programs with trained group workers will need to be developed in these areas and for these children. A program of active reaching out may be necessary for some of these children.

Religious agencies share the concern and the burden. An Episcopal church in a blighted Kansas City area has provided an evening and weekend recreation program for 40 youngsters in a terribly inadequate building. In two years none of the children have had trouble with the law, and this is a very high delinquency area. Service projects such as this can be supported and can be supportive to the overall attack on delinquency.

Again, this is the challenge. Reverse the tide of mistreatment and misunderstanding. Support those who are in active day-to-day contact with troubled children. The problem is not one of treating all troubled children, but of reversing the tide of hatred that feeds into their own hatred.

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(Continued on page 31)

Help for the Helpers

A New Role for Community Mental Health Centers

GARY M. LEE, M.D.,* *Lawrence*

WHEN THE MENTAL HEALTH CENTER in Lawrence opened in 1950, the only full time staff person was a social worker. Psychological and psychiatric services available through the clinic varied from time to time, but in general were minimal. The center was primarily a diagnostic agency for direct clinical services.

The author, a psychiatrist, joined the social worker at the center in 1960. A clinical psychologist joined the staff a short time later. With the full time employment of all three members of the basic psychiatric team, it became apparent that the center should consider offering other services, in addition to diagnosis and treatment of patients, if the mental health problems of the total community were to be met.

Need for Other Services

Articles in the psychiatric literature encourage the comprehensive community mental health center to devote a certain amount of its staff time to non-clinical consultative work with community agencies. We decided to work toward spending 40 per cent of our time in this way. Each of us chose a specific area of community service with which we wanted to work. Since a local minister had previously discussed with the author the possibility of forming a seminar in pastoral counseling, I was particularly interested in this area.

Psychiatry and Religion

Despite the fact that many people perceive a basic conflict between psychiatry and religion, I believe both have a vital role and can work well together. According to the Final Report of the Joint Commission on Mental Illness and Health, "Action for Mental Health," 42 per cent of the mentally ill and emotionally disturbed who seek help go first to their clergymen. An important role of the community psychiatrist may be to consult with ministers regarding the techniques of their everyday pastoral counseling.

A seminar in pastoral counseling was begun at the

mental health center in the summer of 1961. Six attended our initial meeting. None of the ministers wanted to commit themselves to attending regular meetings for the entire summer, so we decided to conduct the group for six weeks. To give the weekly, two-hour session structure, it was decided that each minister would be responsible for presenting a case,

A very important part of the work of a comprehensive community mental health center is that of non-clinical consultation to community agencies and professions who traditionally help people cope with emotional problems of everyday living. This preliminary report of group consultation with ministers in a Kansas community has many implications for physicians who wish to understand more fully the mental health components of their natural working contacts with their patients.

discussing any problems he had. None of the participants was obligated to come to any session other than the one in which he was expected to make his presentation. However, they were obligated to guarantee that six participants would be present at each session; if they themselves did not come, they were to find a substitute. Most of the original six members attended two or three sessions during the summer.

Through the "substitute system" I was able to meet many of the local ministers. Too, the ministers were able to maintain a psychological distance from me and not feel threatened by revealing too much about themselves.

The case presentations offered excellent areas for discussion. Active sharing of feelings and experiences were facilitated by didactic comments from the author.

At the close of the summer sessions, the participants discussed presenting the possibility of a more formal seminar in pastoral counseling to the local Ministerial Alliance. That fall, the president of the Alliance, who had been a member of the summer

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sessions, contacted me and requested that we conduct such a seminar.

Seven ministers joined me at the first meeting, where we discussed the various ways the group could be operated. I offered many suggestions, but let the participants themselves decide how we would proceed. Rather than discussing a series of short, individual cases, the group preferred to study only one case in depth.

Each member was hesitant to volunteer a case for group exploration. Several weeks were spent in deciding which minister would present the study case. Luckily, one minister was seeing a young woman who was in real need of counseling; it was pointed out that her husband also needed separate counseling. This case permitted us to discuss many ramifications of mental and emotional disturbances. As we talked about the case in the group, it was decided that we would suggest to the couple that they engage in a short period of separate counseling for each member. The woman continued counseling with her minister, and another minister from our group saw the husband for the designated eight-week period. This structure gave the group opportunity to study exactly what counseling is, how a case should be selected for counseling, various techniques of counseling, and the termination of a counselee.

This process worked very well, and the group proceeded smoothly during the fall. The total course involved 12 sessions conducted over a four-month period. At the conclusion of our case study, the group asked me to structure a continuation of their meetings through the winter and spring, requesting that we undertake group psychotherapy.

Group Dynamics

I was reluctant to begin psychotherapy with the group. I was unsure of their reasons for requesting therapy, and did not feel that they understood what group psychotherapy involved.

I made every effort to discourage the group from starting psychotherapy. However, they made it clear that they did not wish to continue with case presentations and study. We compromised on group dynamics as a medium for learning more about human motivations and behavior.

I explained to the ministers that in our weekly group dynamics sessions, we would focus primarily on group interactions, analyze them, and study the application of these dynamics to events and circumstances in their everyday living. We did not plan to end the series of meetings at a specific time, but left that decision for later in the spring. It was at this point that one of the original seven members of the fall group withdrew.

My role shifted in the group dynamics sessions. I

gave the group fewer answers to their questions and attempted to get the members to make more comments on their discussions. The group resented this approach. They consistently placed me in an authoritative position and demanded a great deal of information from me. When I did not comply, they became frustrated and designated "leaders" who discussed what they felt my function should be. My interpretations of these dynamics were promptly dismissed. The group was hard pressed to find topics of discussion. I suggested they talk about their religious ideas, their relationships with their governing boards, and similar topics, but they were reluctant to reveal personal ideas and problems.

For about six weeks the group floundered. Then a crisis arose; only four came to the seventh meeting. They told me that the two absent members were dissatisfied with the group's operation and wanted to withdraw. Failure seemed imminent at this point, because I did not believe the group could function effectively with only four members.

However, at this meeting, the four members offered structure to complete this series of meetings, and volunteered to talk to the missing members about returning to the group. Their original plan was for each member to present an autobiography during one session. However, when all six group members came to the next session, they decided to present two autobiographies in one session, and scheduled a summary session to conclude these remaining three sessions.

When the group structure was more concrete, the meetings were better. There was a remobilization of the group around the autobiographies, and the members were able to reveal something of themselves as they presented and commented on the various autobiographies. The group dynamics sessions ended after a total of 12 weeks. At the conclusion of these meetings, the group decided not to meet during the summer, but expressed the wish to continue in the fall. I felt these group dynamics sessions had not been too successful and was doubtful that they would continue.

However, to my surprise, I was again contacted by the ministers in the fall of 1962. Their group was composed of five who had been in previous groups and three newcomers. For the benefit of the new members, and perhaps to allay some of my anxiety, our group of eight organized our meetings according to the procedure followed the first summer of 1961; each member was to present any problem he might choose.

One new member attended three meetings, presented his case the third time, and then requested that he be dropped from the group. He did not discuss why he withdrew. Another member took a different course; after the first meeting, he did not attend for four sessions. He came only to present his

case study, and never returned to the group. Each time he was reminded of the meetings, he would reply, "I'm planning to be there," but he never came.

Group Psychotherapy

By the time nine weeks had passed, the group was down to six members who once again raised the question of group psychotherapy. I hesitated in view of our poor experience with group dynamics, but agreed to psychotherapy sessions if they could be preceded by a few sessions of group dynamics. I outlined in detail the differences between group dynamics and group psychotherapy.

I was more comfortable working with this group than I had been with the previous group dynamics seminar. I was more relaxed, more active, more giving, and less threatened by the group. The group composition had also changed. The two members who had temporarily refused to continue the previous group dynamics seminar were not there. Four members had been in the previous group dynamics sessions, and the two "new" members were warm, positive people. They added much strength to the group, which was generally more positive and less destructive than the previous one.

The group dynamics sessions started with my pointing out the chronic lateness and occasional absence of one of the members. I tried to mobilize the group into pointing out to him that his behavior was disturbing to the meetings, hoping that he would change. I compared his action with that of people who come late to church services, and remarked that we might learn something about those people from this member. The minister, however, did nothing to reform his tardiness. I believe he felt pressured by me to conform to the group's close structure, and refused to attend the meetings after they ended in the spring of 1963.

This group was much more stable than the previous one; they met once a week for five months, and were able to handle anxieties and tensions which arose in the group. There was no one great crisis, but rather a series of smaller problems. One such conflict arose when an out-of-county minister asked a group member if he could participate in the meetings. I openly favored the idea because I felt the group could learn something about group processes when a new member was added to an ongoing group. We did include this member after several weeks of discussion. He stayed to the group's conclusion, and many interesting group dynamics evolved because of his addition.

Before the group ended, we considered starting group psychotherapy sessions in the fall. I felt comfortable about this idea since the group had been able to use the group dynamics sessions profitably. We again adjourned for the summer.

In the fall of 1963 they met as planned for weekly group psychotherapy sessions. Our first session was an exploratory one in which six members met with me. The "chronic latecomer" of the spring group did not join the therapy group. Two other members of the spring group had dropped out and were replaced by two other ministers. I was optimistic about working with this group. I knew five of them, and was familiar with their reasonable attitudes in discussing their personalities and any problems they had.

During the first several sessions, we explored what group psychotherapy would mean to the participants. I explained that, in contrast to group dynamics, it would be permissible for us to explore any personal problem that any member had. We would not necessarily try to apply principles learned in the group to events of everyday living, but instead would consider conflicts arising within the group as a product of individual personality problems.

At the time of this writing, ten group sessions have been held. I believe they have been successful, and that all participants feel as comfortable as I do within the group. All of the participants have attended nearly every session, even though attendance has not been discussed.

I have consistently advised each season's group that eight members is an optimum number of participants for a group dynamics seminar or psychotherapy group. My reason for this, as I explained it to the participants, is that one or two absentees from a smaller group make the resulting group much too small to be productive. Surprisingly, the number of absentees from each group was minimal, so the groups of six or seven members were functional working sizes.

Each time a new group started, I urged participants to bring new members. This was seldom done. I am not sure whether the group felt possessive of my time and therefore attempted to limit the size, or if they genuinely tried to enlist new members. Considering the size of Lawrence and the resistance to and uniqueness of the endeavor, I felt that the size and continuity of the groups was very good.

I have made it a practice to charge each person in the groups a fee of three dollars per session. When a recent member was added to the group, he brought up the fact that he could not afford the fee. The group investigated the financial status of each participant, and agreed that for him, the fee *was* too high. Even though the group wanted me to decide what fee he should pay, I did not feel that this was an administrative problem and left that decision to them. They agreed on a fee of one dollar for him; he is the only member who has paid the smaller fee.

(Continued on page 31)

Psychosomatic Illness

Emotional Factors in Illness: Their Frequency in General Practice

SYDNEY O. SCHROEDER, M.D.,* *Lawrence*

MAN IS A UNIFIED ORGANISM and thinking, feeling, and acting must be integrated harmoniously to produce a whole person. In order to apply the knowledge we have gained about the functioning of human beings, however, it is still useful at times to separate these aspects of a person in our thinking. In this paper, the author hopes to show that, in his experience, the emotional or feeling component of an illness is the important factor in producing the symptoms which bring most patients into the doctor's office.

Along with statements that the doctor-patient relationship is important comes usually the comment that one should understand the patient. But what is really meant by the word, "understand"? In medical practice it has generally meant that one gathers information employing the focus used when taking a medical history, doing a physical examination, and ordering laboratory studies in order to understand what goes on within the patient's body. In other words, the emphasis has been on the study of the functioning or acting part of the patient. This is a legitimate level of understanding, but it does not answer the needs of a high percentage of patients. Although other kinds of understanding are recognized, it is the opinion of the author that general practice and non-psychiatric specialty practice are still largely geared to this level. It was with this impression that the survey upon which this paper is based was undertaken.

The author practiced in a county seat town of 6,000 population located on the edge of a large midwestern metropolitan area. About 75 per cent of the work was office practice. The data presented are derived from a retrospective study of the records of the patients seen during one month of practice in 1955. These records are a representative cross section of both the type of patients seen and the kind of work done during the time the author was in general practice.

During this month, 703 patient visits were made and 374 different patients were seen. These patient visits included office practice, surgical and obstetrical

procedures done in the hospital, hospital visits, and house calls; that is, all the usual work done by a general practitioner. The only contacts not recorded were routine postoperative and postpartum hospital visits.

As the patients' records were being reviewed, each patient was placed in one of three broad categories.

Category 1 consists of those patients judged to need

The increasing interest in psychosomatic medicine has only scratched the surface in its effect on the relationships between doctors and patients. The understanding of human dynamics and interpersonal relations which psychiatry has now developed needs to penetrate into every aspect of medical practice.

specialized psychiatric diagnosis and treatment. Treatment of patients in this category should not be undertaken by a non-psychiatrist, whatever his special interests or abilities may be.

Category 2 consists of those patients in whom the emotional component of the illness was an important and critical factor in producing symptoms. In this category, treatment of the patient can usually be undertaken by the non-psychiatric physician if he is interested in the emotional problems of his patients. Some physicians may elect to refer certain patients in this category either for consultation or for consultation and treatment.

Category 3 consists of those patients in whom the emotional components of the illness were not judged to have had any significant effect in producing symptoms or upon the course of the patient's illness. In this category, emotional factors could be largely disregarded in treating the patient. Adequate information was lacking on 52 patients; these could not be categorized.

The following table gives the number and per cent of patients in each category. The number of male and female patients in each category is also given.

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	<i>Number</i>	<i>Per Cent</i>	<i>Male</i>	<i>Female</i>
Category 1	31	9.6	6	25
Category 2	192	59.6	51	141
Category 3	99	30.8	46	53
Total	322	100.0	103	219
Not Categorized	52		23	29
Total	374		126	248

Thus, in almost 70 per cent of patients who could be categorized, emotional factors should have been given major consideration. Of the 31 patients in Category 1, six were referred by the author to a psychiatrist and six more are known to have obtained psychiatric care since the author has seen them. Of the 12 cases known to have obtained psychiatric care, the author has subsequent personal knowledge about four. One has committed suicide but the other three appear to have made good adjustments with psychiatric treatment.

Two case histories are given to illustrate each of the three categories.

Category 1

Patients judged to need specialized psychiatric diagnosis and treatment.

Case Report No. 1. Mrs. E. P. was 24 years old and single when first seen in September, 1951, after being forced to quit school following one term in a Baptist seminary. During this term, she had lost thirteen pounds and become weak and "run-down." Her menstrual cycle had become irregular with severe pre-menstrual tension associated with "black-out spells."

Mrs. P. was the youngest of nine siblings, the next older sibling being nine years older than she. Her father was a retired Baptist minister. Her mother had died following a gallbladder operation when the patient was four years old. She had pneumonia four times during the first four years of her life and underwent a tonsillectomy and adenoidectomy in early childhood.

Physical and laboratory findings were normal except for a minimal scoliosis of dorso-lumbar spine and a BMR of minus sixteen. For the next two years she was treated with thyroid extract and her symptoms improved only slightly.

Two years after she was first seen, she married and soon become pregnant. During her pregnancy she had backache, nausea, and diarrhea with much anxiety and insomnia. She complained of frequent weak spells and had one episode of fainting as she got off the examining table.

In November, 1954, after an uncomplicated but prolonged (36 hour) labor, she gave birth to a normal male infant. At her six weeks' check-up, she

complained about feeling tired, spells of "passing out" and said she felt as if she had a knife sewed up in her. She was unable to tolerate a pelvic examination at this check-up.

During the next four years, the patient continued to complain of fatigue, headache, vaginal itching, stomach cramps, nausea, and frigidity. In June, 1957, she was hospitalized for ten days because of physical and emotional exhaustion. Psychiatric consultation was recommended at this time but was declined by the patient and her husband.

Mrs. P. was an intense, serious girl whom I never saw free of anxiety or tension. She was frigid in her sexual life and often talked about this problem. Her husband, a ministerial student, did not seem disturbed by the patient's complaints and frequent illnesses. Her pattern of somatizing her conflicts began early in life and the roots of her invalidism were deep-seated. Intensive psychiatric treatment was indicated in order to offer her a chance to change her crippling life-style.

Case Report No. 2. Mr. G. J., 28 years old, was married and a law student when first seen in March, 1955. The only background information in his record was that he was the older of two brothers in a prosperous middle-class family. He grew up in a large city several hundred miles from the community in which he now lived. His parents were both living.

In 1950, a year after his graduation from college, he married the girl who had been homecoming queen during his last year in college. He entered law school and finished his legal training in 1956. After graduation from law school, he accepted a position in the claims department of an insurance company.

Prior to October, 1959, he had been treated several times for minor respiratory illnesses and digestive upsets. At this time, his wife came to see me complaining about her dissatisfaction with the sexual aspects of the marriage, saying she had never had an orgasm in nine years of marriage. The couple had three children at this time, one of whom had some kind of seizures for which no organic explanation could be found. She also said that her husband had failed his bar examinations twice even though he had a good scholastic record in law school and had prepared adequately for the examinations. Now he was planning to take the bar examinations for the third time and he was frightened, upset, and irritable.

Following a joint interview, psychiatric consultation was recommended for both Mr. J. and his wife. After an evaluation by the consulting psychiatrist, individual psychotherapy was recommended for both marital partners. Mr. J. entered therapy but his wife did not. When I left the community, the marital adjustment had improved, but the patient had not yet passed his bar examinations.

The marital and vocational problems in which this patient was involved made it necessary for him to seek major psychiatric assistance.

Category 2

Patients in whom the emotional component of the illness was an important and critical factor in producing the symptoms.

Case Report No. 1. Mrs. M. B. was a 58-year-old widow working as a drygoods clerk when first seen in September, 1947. She complained of gas on the stomach, flatulence, intolerance to fatty foods, and constipation.

This patient was an only child who remembered being considered weak and delicate in childhood. She had been widowed for 18 years, had a 33-year-old married daughter, and had never remarried. She had been constipated all of her life and had been treated for a mild hypertension for several years.

She was treated symptomatically during the period from September, 1947, through 1955, being seen on an average of three times yearly. During this period of time, all physical and laboratory findings were within normal limits except for her blood pressure which varied from 120/80 to as high as 180/110.

In 1956, her blood pressure had become fixed at a level well above normal. Her complaints continued to be variable and included backache, dryness of the eyeballs, and pain in the chest but mainly seemed to involve the gastrointestinal tract with bloating and gas after meals.

In 1958, while under the care of another physician, she had a right mastectomy. Although the patient was not seen in our office after this date, she was known to be an active and vigorous person four years after this surgery. Her best friend had died from cancer of the breast in 1954, at a time when both Mrs. B. and her friend were under my care. Mrs. B. had been quite upset by this friend's death and often talked about how it might have been prevented if the friend had sought medical help earlier.

Mrs. M. B. presented a number of psychosomatic syndromes which in retrospect appear to be related to the loss of all the people with whom the patient had deep emotional ties. If in some way, this patient could have established a trusting relationship with one doctor, she could probably have been spared some suffering.

Case Report No. 2. Mr. F. G., a 23-year-old milk route salesman, and his wife had been patients of the author from the time of their marriage in 1951. He had been treated for a minor injury and for seborrheic dermatitis of the scalp and eyelids prior to receiving a whip-lash injury of the cervical spine in an automobile accident in October, 1956. The

author undertook the treatment of this injury after consultation with an orthopedic surgeon.

About a week after treatment had been undertaken, the patient stated that his mother had made an appointment with an orthopedic specialist for him and that he didn't feel he could go against her wishes although he really didn't want to see another doctor. He then completed treatment for this injury under the care of the specialist his mother had chosen.

In February, 1957, four months after the accident, Mr. G. returned complaining of pain in the back of his neck which was making him nervous and irritable. He was about to be released by the orthopedic surgeon who had been treating him for the neck injury and had been back to work for a month. He was given a prescription for a mild analgesic drug and advised to see the physician who was treating his injury.

Two months later, the patient returned complaining that he had pains in the chest, pain in the left side of his head, and "bad nerves." After he had been released by the physician who treated his neck injury, his mother had sent him to another physician for a general check-up. He had been told that he had a bad heart murmur and a bad left eye. A physical examination at this time showed no evidence of disease except for seborrheic dermatitis of the eyelids. Mr. G. was given a two weeks supply of a mild tranquilizer and required no further treatment at this time.

Ten months later, the patient had an attack of indigestion which subsided quickly with symptomatic treatment. He received no further treatment during the next two and a half years.

The patient's wife and the patient's mother did not get along with each other. There were several periods during the time the author served this family that they lived close to the patient's parents. It is clear in retrospect that during these periods both the patient and his wife visited the doctor's office much more frequently than when their contact with these parents was not so frequent or prolonged.

Category 3

Patients in whom the emotional components of the illness were not judged to have had any significant effect in producing symptoms or upon the course of the patient's illness.

Case Report No. 1. Mrs. B. J., 22 years old, was first seen in October, 1954, complaining of easy fatiguability, intermittent fever, and cough. Her illness apparently started with an attack of pneumonia in the spring of 1952. She had had a second attack of pneumonia in September, 1954, a month after her marriage and a month before the author first saw her.

At the time of her first visit, consultation with a

chest surgeon was advised because of her history and findings of fever with decreased breath sounds and rales over the left lung base. She refused this consultation at this time, but after repeated episodes of respiratory infection during the next nine months, she consented to see a chest surgeon in July, 1955. A localized bronchiectasis of the lower lobe of the left lung was diagnosed and a left lower lobectomy performed in August, 1955.

After recovery from this surgery, the patient had no further febrile respiratory illnesses during the next six years. She went through two pregnancies uneventfully and her general health was good during this entire six-year period.

Case Report No. 2. Mr. F., 50 years old, was an attorney who was happily married, had a son in college and a daughter in high school. He was first seen in January, 1955, with an acute attack of nausea and vomiting. After the possibility of a myocardial infarction had been ruled out, he was treated for an acute gastritis and recovered within 48 hours.

Two months later, this man was treated for sore thigh muscles following a game of touch football. Seven months after this, he had an acute attack of cystitis and urethritis which was relieved within one week. After chronic urinary tract lesions were ruled out, he was treated with a low dosage of a sulfonamide for one month. There was no recurrence of symptoms or positive urinary findings for the next five years that he was under the author's observation. The only other ailment which Mr. F. suffered requiring medical attention during the five years from 1955 to 1960, was an attack of poison ivy in May, 1956.

In each case presented in Category 3, the patient's own resources were more than adequate for handling the emotional impact of the illness.

Applying Psychiatric Principles

Nothing has been said about the interaction between doctor and patient in any of these histories. As the author surveyed his patient records, he observed that remarks about this were lacking in each record. The author is certain that this is not a characteristic peculiar to his own records but is typical of the kind of clinical case histories that most doctors are accustomed to keep.

One cannot help being impressed with the immense need for a larger application of psychiatric principles in medical practice. Michael Balint, in his book, *The Doctor, His Patient, and the Illness*,¹ states that the proper person to deal with the problem of extending the level of understanding between doctor and patient is the general practitioner. The general practitioner's position in the community admits him to a vantage point from which he can keep an eye on the emotional problems in his patients. He is

usually the first to be asked for help, and in his everyday work he automatically obtains the observations which will provide a safe basis for working with these problems. Using the knowledge gained from these observations combined with a grasp of basic psychiatric principles, the general practitioner should be able to deal with most of his patients' emotional problems quickly and well.

We have always known that thoughts and feelings have had something to do with illness. During the last half of the 19th century and the first half of the 20th century, however, we were in a period that might be termed the "machine age of medicine." It is not surprising that mechanistic concepts so entrenched themselves. Of all the forces utilized by mankind in recent history, mechanics is the one which has measured up most magnificently to its promises. The machines built through engineering knowledge and skill admirably perform their functions. No wonder medicine jumped on the bandwagon. We cannot belittle this period either; for by the use of mechanistic concepts, medicine has made more progress in the last 100 years than in all previous history. However, this approach has reached the point of diminishing returns, and we must begin again to think of a person as something more than a complicated machine.

It is true that since World War II more attention has been given to and more study made of the psychological (thinking and feeling) factors in illness than at any previous time in the history of modern medicine. A little more of the curriculum in medical school is allotted to psychiatric training than before.

Since the first edition of Weiss and English's *Psychosomatic Medicine*² in 1943, many books have been published on this and related subjects. The journal, *Psychosomatic Medicine*, has been in publication since 1939. Several postgraduate training programs in psychosomatic medicine for general practitioners have been established and more are planned. Non-psychiatric specialists are beginning to consult with their psychiatric colleagues more frequently.

This increasing interest in psychosomatic medicine as yet has only scratched the surface in its effect on the relationships between doctors and patients. The understanding of human dynamics and interpersonal relations which psychiatry has now developed needs to penetrate into every aspect of medical practice.

If the experience of other doctors in non-psychiatric practice is in general agreement with the author's observations, a change from the traditional emphasis upon medical and surgical subjects in medical education is indicated. Such a change is necessary if medical students are to be trained to understand and treat the patients who will be coming to see them after they enter the practice of medicine.

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Help for the Helpers

(Continued from page 26)

Results

This paper is in no way a final study of my work with ministers. It is merely a report of group sessions and interactions that have occurred thus far, and perhaps a guide for others who want to initiate a similar undertaking. The role of consultant is a relatively new one for professionals in the mental health field. We have traditionally concentrated on direct treatment of patients. However, comprehensive community mental health programs and centers have given rise to another, different kind of service—that of consultation to other helping persons and agencies in the community in order that they may understand more readily the mental health components of their own services and may apply mental health principles in their natural working contacts with the people they serve.

SUPPORT THE WORLD MEDICAL ASSOCIATION

With the words "This is your international organization of private medicine as distinguished from the intergovernmental World Health Organization" Dr. Edward R. Annis, president of the American Medical Association, appealed to members of the American medical profession to support the World Medical Association through active membership in the World Medical Association, United States Committee.

Speaking before the AMA House of Delegates during the AMA Clinical Session in Portland, Oregon, Dr. Annis, who is President of the World Medical Association, told of how the World Medical Association is the only private organization officially recognized to represent private medicine on an international level. "Through this representation" he stated, "our own free practice of medicine here in the United States is protected."

United States Committee annual membership dues of \$10 are tax-exempt. Dues should be made payable and sent to: The World Medical Association, United States Committee, Inc., 10 Columbus Circle, New York, N. Y. 10019.

Post-Treatment Rehabilitation

An Experiment in Community Resocialization of the Psychiatric Patient

MERRILL WESTLUND,* *El Dorado*

IN DAILY CLINICAL WORK, I am constantly impressed with the difficulty that present and former psychiatric patients have in developing social skills. It is easy for them to isolate themselves from community life, and to ignore their recreational and social needs. This behavior is due not only to the patient's reluctance, but also to community hesitation to accept the person having, or having had, professional help. Some of our community civic organizations, for example, are restrictive in their membership (which they would overtly deny). Membership in community social and recreational organizations also is closed for many patients.

Mental health professionals believe that when the patient first returns from hospitalization, the family often does not facilitate his readjustment to the community, despite their good intentions. They are often over-anxious and watch suspiciously for the return of old symptoms. We must also recognize that through the years, the community-at-large has developed a negative attitude toward the mentally ill. Although the attitude is changing rapidly today, the man on the street is not totally tolerant of mental illness.

Need for Aftercare Services

Workers in community mental health centers have been bothered by the fact that all psychiatric professions have traditionally devoted their efforts almost entirely to treating patients in one-to-one relationships. The final report of the Joint Commission on Mental Illness and Health, "Action for Mental Health," impresses us with the importance of *total community* mental health, and especially with the urgency of planning supportive services for patients discharged from mental hospitals. There is a "serious gap in services that would help the patient bridge the gulf between hospital discharge and satisfactory functioning in the community. Even communities with good mental health programs were found lacking in this phase of treatment."

The board of directors and staff of the Butler County Counseling and Mental Health Center, in the summer of 1962, decided to meet the challenge of

providing aftercare services in our community. Our original goal was the development of a day care treatment program. We felt sure we could realize an average of ten patients a month, on the basis of the center's case load alone. We also realized that the state hospital could easily refer several patients each month for day care treatment. Our enthusiasm to develop the day care treatment program generated a

Providing aftercare services for patients released from mental hospitals has long been a challenge—and a problem—for community agencies and persons interested in their local mental health program. Several community mental health centers in Kansas have initiated or assisted community groups in offering various specialized follow-up services to patients. One such program is a social club begun by the Butler County Counseling and Mental Health Center and the local mental health association.

great deal of community interest. However, the program had to be temporarily postponed because we realized it would take more time and more money than were available.

When we first opened the center in El Dorado in April, 1962, I encouraged the local mental health association to use one of our empty offices. The volunteer committee of the association responded by staffing the office four days a week, and for a few weeks were busy filling requests for speakers and pamphlets. Despite our efforts to educate the public about this new service, the volunteers ended up answering inquiries about the services of the mental health center. The volunteers eventually rebelled and transferred their memberships to other committees of the association. A few weeks later a new committee of volunteers formed with new enthusiasm and came to me for a project. It was about this time that plans for the day care treatment program had been abandoned, and I had just reviewed the "good neighborhood corps" plan of the Kansas Association for Mental Health.

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Social Club for Discharged Patients

The volunteers and I discussed various forms of aftercare services they might undertake. They decided to start a club for those who have had, or are currently having, help for an emotional problem; I offered to serve as a consultant only. It was decided that the club would meet every two weeks in the mental health center. The county newspapers and radio station announced the formation of the new club and its first meeting date. Announcements were mailed to present and terminated patients of our center. The Osawatomie State Hospital was also notified.

The committee members questioned me about the "best way" to talk with patients and discussed some of their ambivalent feelings. They decided to act "normal," and not look for symptoms of mental illness.

In preparing for the first meeting, the committee focused some of their anxieties on preparing a table suitable for a notable dignitary and asked "How many do you think will come?" I reassured them that we would be off to a slow start but that the club would grow and their contribution would be valuable. Three patients came that first evening and thrived on the attention provided by five volunteers, the president of the Butler County Mental Health Association and myself. The business part of the meeting concerned itself with finding more members and planning for election of officers. The three members won most of the games we played later, and one volunteer said, "I've decided you can't tell a patient from a volunteer."

After refreshments, the three patients reassured the volunteers that they would bring several other potential members next time and wanted reassurance themselves that the club would continue.

Membership Increases

Two weeks later the club increased to nine members and again the newspapers and radio publicized the meeting. Almost all members were in the 20 to 30 age group; eight were women—there was only one man. He was quite popular and the women talked about needing a phonograph for dancing. Group interaction was more cohesive and the volunteers began to assume a more passive role. The members again talked about electing officers in the future, and one woman suggested she would like to be president. The Bingo game was again successful and refreshments followed. Again they talked about bringing new members.

The next meeting of the club increased the membership to 19, and they conducted a short business meeting themselves. It was decided to plan a potluck supper for the following meeting and to invite the staff of Adair Section of Osawatomie State Hospital. They were enthusiastic about this plan; some wanted

to see their old doctor or social worker, and wanted them to see "how well we are doing."

I intentionally missed these last two meetings because the club members told the volunteers it bothered them to have the Center staff there. However, I work closely with the volunteers both before and after the meetings.

Perhaps the members felt guilty about their attitude toward our staff because they invited Dr. Luis Ibarra (medical director of the Center) and me to the potluck supper. They also invited Dr. G. E. Kassebaum, the president of our board of directors, and asked me to invite the staff from the state hospital.

The two weeks which the members spent preparing for the dinner paid off well; three members from the hospital staff attended and were asked to make short speeches. The food was delicious, and the socialization was remarkable. The club members then numbered 34 and talked primarily with each other. The volunteers and professional staff formed a separate group and it was not until after dinner that the two distinct groups integrated.

Therapy in Program

I believe that such a club has therapeutic value in an aftercare program at the community level. This is a self-help or mutual aid group which provides a basic experience in community social and recreational activities. It is not infrequent that the former or present patient takes several months to become involved in the usual activities in the community, without such assistance.

A social club offers support, group identity, the chance to develop social and recreational skills, and perhaps other unknown fringe benefits. A club generates a great deal of community interest in facing the needs of former patients. Other community clubs and organizations are now asking, "What can we do to help the patients' club?" and several groups have donated prizes for Bingo games. The club is useful for a direct referral of patients currently in treatment.

I have encouraged the volunteers to see the club as the patients' stepping stone to other community groups and organizations. I have told them (as stated in the American Public Health Association booklet, *Mental Disorders—A Guide to Control Methods*) that a club such as ours is beneficial only until the patient outgrows the need for it.

Subgroups or cliques are now forming within the club. They play Scrabble, bridge or other games which limit the number of players, yet the majority still play Bingo. Dancing is part of the regular program; however, this is limited by still having only one male member.

Perhaps the success and the group cohesiveness is reflected in the members' chosen name for their club—they call themselves "The Conquerors."

Questions and Answers . . .

. . . About Community Mental Health Services in Kansas*

Has Kansas Made Progress in the Area of Community Mental Health Services?

Yes, indeed. Between April, 1961, and April, 1963, the total professional man-hours per week increased from 1,670 to 2,280 in community supported and controlled mental health centers. This is an increase of 37 per cent.

Hasn't This Increase Been at the Expense of Other Mental Health Services in Kansas?

No. Professional staff hours available in outpatient facilities other than community mental health centers have also increased during the two-year period. The professional man-hours per week in such facilities as the state hospital outpatient departments, the University of Kansas Medical Center, the Menninger Foundation, and other public or private non-profit outpatient facilities over the same two-year period increased 10 per cent from 3,786 to 4,190. The increase is more rapid in community mental health centers, but it is *not* at the expense of other mental health services. In other words, there has been a *net gain in Kansas services over the two-year period.*

How Many People Work in the Mental Health Centers Now?

	Full-Time	Part-Time	Trainees	Consultants	Total
Psychiatrists . .	8	5	11	4	28
Psychologists . .	17	9	1	0	27
Social Workers	25	0	4	0	29
Total	50	14	16	4	84

We've Heard That Some of These People Aren't Fully Qualified. Is This True?

The level of training and experience of community mental health center staff is high. All of the psychiatrists are eligible for certification or have been certified by the American Board of Psychiatry. Of 26 psychologists (not trainees), 18 have the Ph.D., seven the M.A. or M.S. and one an A.B. degree. Of the 25 social work staff, only four have not completed the MSW degree.

Most of the professional people bring many years of experience with them to their community mental health work.

Where Are the Existing Community Mental Health Centers Located?

In Garden City, Salina, Newton, Wichita, El Dorado, Manhattan, Emporia, Humboldt, Ottawa, Lawrence, Topeka, Kansas City, Pittsburg, and Atchison. There are two centers each in Wichita and Kansas City.

How is the progress of the community mental health center program in Kansas affecting other mental health agencies? Are they losing staff—and patients—because of the centers' expansion? Is our program of planning for specialized mental health services in our communities realistic? Can we expect to staff and support financially the new centers that will open? What effect will the new Federal legislation have on our mental health program?

These questions and many others are arising in the minds of all citizens concerned with the development of community mental health services. This article attempts to answer some of these questions, and to briefly explain several facets of the rapidly growing program for community services in Kansas.

Aren't These Services Concentrated in the Eastern Part of the State, Leaving Out Western Kansas?

Unequal distribution of mental health services still persists. However, Kansas citizens have made significant gains in providing a more equitable distribution of available services.

In January, 1962, there were 15 counties levying a mental health tax to provide local community mental health services. By January, 1964, the number of counties levying this tax will increase to 38. Sixty-seven per cent of the state's population will reside in these counties.

Where Will Centers Be Opening Next Year?

In Hiawatha, Pittsburg, Independence, Hays and Liberal.

* Prepared for the JOURNAL by Community Mental Health Services, Division of Institutional Management, Kansas State Board of Social Welfare.

Can We Staff These Centers? Everything We Read Tells About the Scarcity of Professional Staff. Aren't We Kidding Ourselves by Trying To Set Up Centers All Over the State?

Staffing is and will remain a difficult problem. However, our past success in this area, Kansas' recognized leadership in the mental health field, and available man power figures suggest that staffing of the community mental health centers in Kansas *will be feasible*.

For example, about 1,000 physicians complete psychiatric residency training in the United States each year. Thus, Kansas, with about 1 per cent of the national population, could expect ten new psychiatrists per year *if our state gets its proportionate share*. We foresee the need for eight additional psychiatrists next year. *If Kansas maintains a competitive position with other states*, we can look forward to staffing mental health centers with psychiatrists.

The same ratios and possibilities apply to the other disciplines: clinical psychologists and psychiatric social workers.

Aren't We Creating a Problem by Allowing Individual Counties to Establish Mental Health Centers? Isn't There a Possibility of Many "Little" Centers Springing Up, Without Sufficient Need or Financial Resources to Staff and Support Them?

No, the State Board of Social Welfare has adopted a definite policy of approval of new mental health centers that will prevent this. In agreement with the recommendations of the Joint Commission on Mental Illness and Health, the policy stipulates that no center will be established unless it will serve, within the foreseeable future, a population of at least 50,000 people, and has a foreseeable tax income of at least \$40,000. The minimum staff for such a community mental health center consists of a psychiatrist, a clinical psychologist, and a psychiatric social worker.

With this central planning and regulation which was made possible by the 1961 Legislature, random and uncoordinated growth of community mental health centers has been effectively controlled. By January, 1964, Kansas will have 21 mental health centers. Nine centers (existing and projected) serve multiple county districts; most single-county centers are planning to merge with adjoining counties, so they may develop into regional mental health centers.

How Many More Mental Health Centers Do We Need?

We see a definite need for mental health centers, in addition to those scheduled to develop next year, at Dodge City and Hutchinson. As resources and local

leadership permit, additional centers can probably be established at Concordia, Great Bend and Colby.

Can the Counties Raise Enough Money To Support This Service?

Yes, the allowable half-mill tax levy in most counties raises about one dollar per capita, or \$50,000 per year for 50,000 people. This is enough money, in most situations, to provide an adequate outpatient mental health center and community consultation service.

It is not enough, however, to provide day hospital services, psychiatric services in the local general hospital, day treatment programs for retarded children and emotionally disturbed children, or special treatment programs for alcoholics, juvenile delinquents, and adult offenders.

Shouldn't These Additional Services Be Available in the Communities?

Yes, experience in Kansas, and in the nation as a whole, indicates that broadening the base of community mental health services by providing more than outpatient psychiatric services greatly increases the usefulness and economy of the clinic's operation. Experience has likewise shown that these additional services can be established in local mental health agencies, and that they will be used and will be effective in improving the mental health of the community.

Isn't This Too Complex an Operation for Local People to Administer? Doesn't This Require Central Administration by the State?

Some mental health professionals have said that it does. However, local citizens administer many other programs that are technically complex. Experience in Kansas indicates that regulation and administration of even such complicated and specialized mental health services can be done by local people.

Would Special Services at Local Centers Do Away With the Need for State Hospitals?

No, these services would merely be forging additional links in the chain of care—the total network of services needed for a comprehensive program of mental health services. The problem, until recently, has been that the patient either must do without treatment, or he must go away to a state hospital. This plan would allow alternatives to state hospitalization, available to all Kansas citizens within their communities.

Wouldn't This Plan Affect the Way the State Hospital Operates?

Yes, indeed. Instead of becoming a receiving point for *all* psychiatric casualties, the state hospital would

assume a role similar to a university medical center. That is, it would be the place where serious or complex cases—those that could not be treated successfully in the community—*would be referred for the most expert professional care.*

Wouldn't the State Hospital Become Just a Custodial Institution?

No more than a university medical center is "custodial." The state hospital would become a back-up resource for all community agencies, and would also *take on the role of increasing importance in the area of providing consultation and professional education for persons working at the community level of service.*

Even Though This Shift in Emphasis From Centralized State Hospitals to Decentralized Community Resources Is Scientifically Possible And Theoretically Desirable, Can It Be Accomplished in Kansas With Our Financial Resources?

The half-mill levy allowed by existing legislation is not sufficient to provide these additional services in the community. However, the State Board of Social Welfare is considering many possibilities of re-directing services. One possibility would be to provide matching state funds to communities for developing specific resources such as day hospitals, psychiatric units in general hospitals, and day treatment centers for retarded and emotionally disturbed children.

Another possibility would be to allow patients to choose between going to a state hospital or an approved private resource. The cost of the patient's treatment would be subsidized by the state. California has found this plan economically feasible, professionally and socially desirable, and has adopted the position that at least 50 per cent of treatment services in California will be provided through private channels. Because of its enlightened legislation, California now has more private psychiatric hospitals and day hospitals than any other state in the union.

If the Legislature Does Decide to Provide Financial Assistance to the Communities, Wouldn't It Be Better to Just Give Them a Lump Sum of Money Rather Than to Specify Its Use?

No, experience in other states has shown that this is not an effective way of encouraging specific program development in the communities. Grants for establishing *specific* programs, given to mental health districts, offers the best promise of providing a *co-ordinated and reasonable development of the full range of preventive treatment, and rehabilitative services in Kansas.*

Isn't the Federal Government Going to Appropriate a Lot of Money, Which Will Mean That Local Citizens Will Not Have To Tax Themselves, Nor State Income Have to Be Provided?

No, the federal program is clearly outlined as a *temporary* grant-in-aid program.

Kansas has developed the best state hospital system in the nation with local initiative and sound state leadership, rather than waiting for the national government to come to our aid.

While available federal funds will be a welcome assistance and needed stimulus to the rapid development of the community program, such grants-in-aid are only temporary and will not make possible the development of good services without financial sacrifices. *With mental health, as with all other things, one gets exactly what one pays for.*

But Can the Man in the Street Really Get Good—And Immediate—Psychiatric Treatment, No Matter Where He Lives in Kansas?

None of the existing centers have entirely adequate personnel to meet *all* mental health needs of their communities. In addition, there are many areas of the state that do not have readily available mental health services.

We must think in terms of a *long range* program that covers several generations in time, before we can *begin* to talk about having services that are as adequate in the psychiatric field as they are, for example, in the field of general medicine.

Because of the severity of the mental illness problem (recent scientific studies in mid-town Manhattan and in Nova Scotia reveal almost 20 per cent of the population are seriously or totally incapacitated by mental and emotional illness) continued cooperation, effort, wisdom, and sacrifice on the part of professional and lay people in our state are required.

Buy
U.S. Savings Bonds

A Selective List of Drugs Used in Psychiatry

The drugs included in the compilation represent a selection from psychiatrically usable drugs, and are based on reports in the March, 1962, issue of Psychopharmacological Service Center Bulletin, published by U. S. Public Health Service. Inclusion was based on the availability of the drug for prescription in the United States on January 1, 1962.

The list is not to be construed as recommendations of the Psychopharmacological Center; it is meant to reflect the findings reported in the literature and in the manufacturers' recommendations and instructions for use.

For the sake of conciseness and ease of reference, the information in this list has been greatly condensed, and certain details have been omitted altogether. The list therefore, *should not be looked upon as a therapeutic guide. Clinicians who plan to use the drugs should not select or administer them on the basis of this compilation.*

The information on dosage range, uses, and side effects is intended to convey a general idea of relative potency, effectiveness, and safety of the drugs. These definitions of terms and symbols should be noted:

Dosage Range: These figures are based on the manufacturer's recommended range of *total oral dose per day* for psychiatric conditions in adults. Dosage schedules, problems associated with individual responses of patients, and dosage range reported in the literature have been omitted. *The manufacturer's information and the clinical literature should be consulted prior to administering these drugs.*

Use: Psychiatric drugs, of course, have many uses; however, for this list we have considered only three: for psychoses, for neuroses, and for depression (regardless whether it is psychotic or neurotic depression). Three symbols—the letters "X," "Y," and the question mark "?"—accompany the indication of use. The letter "Y" means that the use has been reported in the literature or in the manufacturer's brochure; the letter "X" means that at least one controlled study raises questions about the reported use, or that uncontrolled studies only equivocally support the drug's usefulness.

Side Effects: Two symbols have been used in conjunction with the category of side effects, or complications. A plus-minus (\pm) means that the side effect may occur, and a plus (+) means that the side effect is reported to have occurred. The "may-occur" side effects refer to the fact that, since several drugs in a

given chemical group have been reported to cause a certain side effect, a new drug in the same chemical group may also cause the same side effect, although it has not been observed.

The reader should note that we have attempted no clinical evaluation of the seriousness of any side effect; the clinician using the drugs is quite capable of judging the relative seriousness of, say, autonomic reactions and blood dyscrasias; and he is aware that one occurrence of a reversal in the action of epinephrine is enough to contraindicate its use with the psychiatric drug that potentiates epinephrine untowardly.

Examples (by no means exhaustive) of what we mean by each of the side effects are as follows:

1. Autonomic reactions—headache, nasal congestion, difficulties in urinating, excessive perspiration, dry mouth.

2. Behavioral toxicity—over-sedated, staggering, "punchy," confused, depersonalized, dizzy, hallucinated.

3. Hyperreflexia—jumpiness, jittery, acathisia.

4. Potentiation—this drug, taken with another drug, results in extraordinary, undesired reactions.

5. Seizures—convulsions.

6. Hepatic pathology—jaundice, hepatitis, undesirable changes shown on hepatic tests.

7. Blood dyscrasias—agranulocytosis, leukopenia, thrombocytopenia.

8. Endocrine disturbances—abnormal lactation, menstruation, sexual changes (such as impotence).

9. Cardiovascular involvement—only severe disturbances, not tachycardia or bradycardia unless they are severe.

10. Skin disorders—rash, allergy, eruptions.

11. Reversed epinephrine—epinephrine lowers rather than raises blood pressure.

12. Dyskinesia—dystonic reactions, oculogyric crises.

13. Extrapyramidal syndrome—Parkinson syndrome, muscular tremor, tics, rigidity, excessive salivation.

14. Peripheral edema—accumulation of fluid in body's extremities.

15. Hypotension—lowered blood pressure.

16. Habituation—addiction, tolerance.

The reader is reminded again that these are potent drugs, to be administered only on the basis of clearly defined clinical indications. They are potentially toxic physiologically and incorrectly administered may worsen the individual's emotional illness. As with all medication, the practitioner is well-advised

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SUMMARY TABLE OF PSYCHIATRIC DRUGS

*Uses**Side Effects*

<i>Drug</i>	<i>Dosage Range</i>	PSYCHOSES	NEUROSSES	DEPRESSION	ALITONOMIC REACTIONS	BEHAVIORAL TOXICITY	HABITUATION	POTENTIATION	EXTRAPYRAMIDAL SYNDROME	DYSKINESIA	HYPERREFLEXIA	SEIZURES	HYPOTENSION	CARDIOVASCULAR INVOLVEMENT	HEPATIC PATHOLOGY	BLOOD DYSCRASIAS	PERIPHERAL EDEMA	SKIN DISORDERS	ENDOCRINE DISTURBANCE
Phenothiazine Derivatives																			
Dimethylamine Series																			
chlorpromazine (Thorazine)	30-2000 mg.	x	y		+	-		-		+	+					+			+
methoxypromazine (Tentone)	30-1500 mg.	?	?		+	+		+							+	+			
promazine (Sparine)	40-1000 mg.	?	y		+	+		+				+	+		+	+		+	
promethazine (Phenergan)	100-150 mg.		y		+	+		+										+	
propiomazine (Largon)	10-30 mg.	-	y		+	+		+	+										
trifluorpromazine (Vesprin)	20-150 mg.	x	y		+	+		+	+	+		+	+	+		+			+
trimeprazine (Temaril)	5-80 mg.	-	y		+	+										+			
Piperazine Series																			
acetophenazine (Tindal)	40-80 mg.	y	y		+	+			+		+	+	+		+	+		+	
fluphenazine (Permitil, Prolixin)	1-20 mg.	x	y		+	+		+	+	+	+	+	+		+	+		+	
perphenazine (Trilafon)	6-64 mg.	x	y		+	+			+	+	+	+	+		+	+		+	
prochlorperazine (Compazine)	15-150 mg.	x	x		+	+		+	+	+	+	+	+		+	+		+	
thiopropazate (Dartal)	8-30 mg.	x	y		+	+		+	+	+	+	+	+		+	+		+	
trifluoperazine (Stelazine)	2-40 mg.	x	-		+	+		+	+	+	+	+	+		+	+		+	
Piperidine Series																			
mepazine (Pacatal)	75-800 mg.	?	y		+	+		+	+	+	+	+	+		+	+		+	
thioridazine (Mellaril)	20-800 mg.	x	x		+	+		+	+	+	+	+	+		+	+		+	
Rauwolfia Alkaloids																			
alseroxylon	2-4 mg.	y	y		+	±		+	±				+				+		
deserpidine (Harmonyl)	0.1-5 mg.	x	y		+	+		+	+				+						
rescinnamine (Moderil)	0.5-1 mg.	y	y		±	+		±	±	+			+	+					
reserpine	0.1-15 mg.	x	y		+	+		+	+			+	+				+	+	+
Substituted Diols																			
emylcamate (Striatran)	600-800 mg.	-	y		+	+	+	+					+						
meprobamate (Equanil)	800-2400 mg.	-	x		+	+	+	+					+	+		+			
phenaglycodol (Ultran)	800-1200 mg.	-	y		+	+	+	+					+	+		+			+

[illegible]

Key \pm = may occur.

+ = is known to occur.

$x =$ at least one controlled clinical study supports the reported use.

y = use reported in literature or in manufacturer's brochure.

? = at least one controlled study raises questions about the reported use, or uncontrolled study only equivocally support the drug's usefulness.

Postgraduate Education

Report of a Mail Survey

H. G. WHITTINGTON, M.D.,* *Lawrence*

DURING DECEMBER, 1962, the Physician Education Committee of the Kansas District Branch of the American Psychiatric Association sent postal cards to all members of the Kansas Medical Society, inquiring about their wishes concerning postgraduate education in the application of psychiatric principles to their practices. *Table 1* indicates their responses and preferences concerning the various types of postgraduate opportunities that might be made available.

At the same time, the committee sent postal cards to all members of the Kansas District Branch of the American Psychiatric Association, asking for an indication of interest in helping with postgraduate education. Their responses, shown in *Table 2*, express gen-

eral willingness to participate in postgraduate education of general physicians.

The committee made the results of this survey available to the Psychiatric and Postgraduate Depart-

TABLE 1
PHYSICIANS

1. I do desire postgraduate work in the application of psychiatric principles to my practice of medicine	360
I do not desire postgraduate work in the application of psychiatric principles to my practice of medicine	134
2. The following approaches would be most helpful to me:	
a. Circuit course on psychiatry in general and/or specialty practice	179
b. Seminar at KUMC or Menninger Foundation	128
c. Seminar at nearby state hospital	70
d. Ongoing group discussion (one evening a week for six to eight weeks) at nearby community mental health center or with private psychiatric practitioner	109
e. Presentations at county medical society meetings of psychiatric programs	114
f. Correspondence courses	31
g. Training opportunities at psychiatric centers on part or full-time basis for 1-12 months	20
Cards mailed December 11, 1962 to all members (except psychiatrist) of the Kansas Medical Society.	
Approximate total mailings	1680
Total returns	494

TABLE 2
PSYCHIATRISTS

1. I would be willing to be involved in physician education	32
I would not be willing to be involved in physician education	16
2. I would prefer the following types of activity:	
a. Speaker at county medical society meeting .	13
Preferred topic:	
Child psychiatry	
Use of tranquilizers and energizers	
Depressions	
Traumatic neuroses	
Drug addiction	
General practitioner as a sex counsellor	
Psychological reactions to head injury	
Chronic alcoholism	
Kansas Receiving & Diagnostic Center	
State hospital and general practitioner	
Mental retardation (2)	
b. Discussant of clinical case at county medical society meeting	8
c. Leader of ongoing seminar for small group of physicians	15
d. Supervision of general practitioner from isolated area who is carrying severely ill and post-hospital patients supportively ...	15
e. Other:	
I am involved in physician education	3
Cards mailed December 11, 1962 to all members of the Kansas District Branch, American Psychiatric Society.	
Approximate total mailings	150
Total returns	48

ments of the University of Kansas Medical Center, and to the Menninger Foundation, in the hope that these educational institutions would be able to help meet the educational desires and needs of the physicians of Kansas. The program chairmen of the county and district medical societies in Kansas were also given a list of the psychiatrists who indicated a willingness to appear on a medical society program, along with a listing of their preferred topics. Additionally, we provided psychiatrists who had indicated a will-

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Book Reviews, Current Literature, Films and Pamphlets of Interest to Physicians

CONTEMPORARY PSYCHOTHERAPIES—Morris Stein, Editor. Free Press of Glencoe, 1961.

This comprehensive book presents various theories of psychotherapeutic practice, assembled from papers contributed by authorities in the fields. Some incongruities and confusing features result from the multiple authorship, but a study of the book is rewarding. The point is made that a therapeutic *situation* is present when the patient (1) knows he should change, (2) desires a change, (3) has confidence in the therapist and (4) is not greatly disturbed by fear, rage or sexual feelings. A therapeutic *process* involves (1) sympathetic support, (2) the release of affect, (3) persuasion and suggestion, (4) direct intervention when necessary, and (5) the attainment of insight and action.

ESSENTIALS OF PEDIATRIC PSYCHIATRY—Ruben Meyer, M.D., et al. Appleton-Century-Crofts, 1962.

This dynamically oriented and compact book outlining the elements of pediatric psychiatry is geared to the everyday reality problems of the pediatrician dealing with patients' emotional and behavioral problems. Any physician involved in total medical care for children would invest his time well in reading this text.

TREATMENT OF EMOTIONAL PROBLEMS IN OFFICE PRACTICE—Frank F. Talman, M.D. McGraw-Hill, 1961.

This thorough discussion of current psychiatric thinking presents various topics basic to an understanding of personality functioning. Case reports illustrate and amplify the treatment of emotional problems in the physician's office. This book is highly commended for reading by the family physician.

EXPLORATION OF ALTERNATIVES TO HOSPITALIZATION—Robert F. Moore, et al. *American Journal of Psychiatry*, 110:560-569, 1962.

This article reports a study of outpatient treatment as a voluntary alternative to hospitalization. *It was found that 49 per cent of the individuals who would have otherwise been hospitalized could be treated successfully on an outpatient basis.* The authors concluded that alternatives to inpatient care can be provided for a significant number of persons who are

referred for admission, at a cost no greater than the expense of ward care. They further concluded that "special personnel, unusual techniques, and elaborate resources are not required for these alternatives. What is required is a different view of the functioning of the mental hospital. When the treatment team decides that hospitalization often can and should be circumvented, and adopts prevention of admission as one of its primary functions, it will find practical alternatives to admission right at hand. The team will need a willingness to take responsibility for the patient's care promptly; willingness to be flexible with regard to how and where treatment is to be given; and a willingness to consider together the patient, his family, and his environment in diagnosis and treatment."

SERVICE ATTITUDES OF BOARD AND STAFF MEMBERS OF COMMUNITY MENTAL HEALTH CLINICS—Allen A. Houda and Daniel N. Waner. *Mental Hygiene*, 45:40-45, 1961.

This much needed study demonstrates that the attitudes of staff members and governing boards of community mental health clinics do not differ significantly. Both groups place high priority on the treatment of emotionally disturbed children and on caring for the individual with the first emotional breakdown. In contrast, both tend to place low priority on the care of mentally retarded children, provision of long term intensive treatment, surveys of community needs, and treatment for the previously hospitalized psychiatric patient.

THE PSYCHIATRIST LOOKS AT PROFESSIONAL COURTESY—Alfred Auerback. *American Journal of Psychiatry*, 119:520-526, 1962.

The author explores the frequent misunderstandings and harsh feelings resulting from the widespread concept that psychiatrists violate medical ethics by charging patient fees to physicians and their families. The study demonstrates that psychiatrists are keenly aware of professional courtesy, and that, contrary to popular belief, nearly every psychiatrist provides gratuitous services to his professional colleagues and their families. It was found, however, that many psychiatrists and their wives hesitate to seek medical care because of concerns about professional courtesy.

The conclusion of the study was that the psychia-

trist should decide the basis for extending professional courtesy upon specific circumstances of each individual case. In general, psychiatrists do not charge colleagues for a diagnostic workup or short term therapy. It was recommended that if long term therapy is indicated, it should be discussed and agreement reached before treatment is begun. A further conclusion is that professional courtesy may be a barrier to good medical treatment; in many cases it causes delay in seeking medical help and produces negative feelings on the part of the patient and treating physician.

These new mental health pamphlets are available to physicians free of charge from Community Mental Health Services of the Division of Institutional Management, Kansas State Department of Social Welfare, State Office Building, Topeka.

Public Affairs pamphlets, suitable for distribution to patients:

WHEN A FAMILY FACES STRESS discusses some of the special pressures on people today and the resulting conflicts among family members. Kinds of help available in many communities, with particular attention to family service agencies and mental health centers, are described.

WHEN MENTAL ILLNESS STRIKES YOUR FAMILY gives clear, concise information that families need when someone has suffered an emotional breakdown requiring hospitalization. What every person should know about mental illness, what a good mental hospital is like, and how families can help the patient secure a speedy recovery are discussed.

PSYCHOTHERAPY—A HELPING PROCESS explains that the one in seven adult Americans who seeks professional help for his emotional problems may go to a psychiatrist, psychologist, psychoanalyst, community mental health center or social agency, or pastoral counselor. This booklet offers a clear, understandable description of the varieties of psychotherapy available and of the training and qualifications of those who provide such help.

SCHOOL FAILURES AND DROPOUTS reflects an urgent national problem: more than 30 per cent of high school students drop out before graduation. Clues to potential school failures and suggestions of what can be done to keep children in school and prepare for a skilled vocation are given for physicians, parents, teachers, counselors, and community agencies.

Publications of the American Medical Association:

A MANUAL ON ALCOHOLISM, prepared by the AMA's Committee on Alcoholism of the Council on Mental Health, offers suggestions for the treat-

ment of alcoholism—one of the problems confronted frequently by the physician in his practice. This manual was sent to Kansas Medical Society members in May, 1963. New members may obtain a copy by writing Community Mental Health Services.

GUIDE FOR EVALUATING EMPLOYABILITY AFTER PSYCHIATRIC ILLNESS contains suggestions that are helpful to private physicians in appraising the employability of a recovered psychiatric patient, in helping him secure a job, and in understanding the problems he may face on the job.

Kansas publications:

CONSERVATION OF HUMAN RESOURCES—A GUIDE TO THE KANSAS PROGRAM FOR COMMUNITY MENTAL HEALTH SERVICES, published by Community Mental Health Services in January, 1963. This pamphlet gives a brief history of the movement toward community services in Kansas, describes the current program and standards, and suggests possible further development of community services for our state.

MENTAL HEALTH RESOURCES IN KANSAS—A GUIDE TO PSYCHIATRIC SERVICES, published by the Kansas Association for Mental Health in 1963, is a guide to all private and public psychiatric facilities in Kansas. This booklet is a must for all physicians who are called upon to counsel and refer individuals seeking psychiatric help. Write to the Kansas Association for Mental Health, 214 West Sixth, Topeka, for a copy.

Pamphlets from Smith Kline and French Laboratories:

COOPERATIVE PLANNING FOR MENTAL HEALTH tells about action taken by various groups to implement the recommendations of the Joint Commission on Mental Illness and Health, and about the cooperation of these groups in planning toward realizing the goals of the Joint Commission Report.

WHAT DO YOU KNOW ABOUT RECENT MENTAL HEALTH PROGRESS? points out a few areas where progress is being made in the fight against mental illness—in the community and in the hospital.

WHEN A MENTAL PATIENT GOES HOME presents clearly the responsibility of all community agencies and professions in helping the ex-patient readjust to life in the community.

These new mental health films, purchased by Community Mental Health Services, are available from Health Education Service of the State Department of

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Rapidly Progressive Jaundice, Abdominal Pain, Ascites and Hepatosplenomegaly

Case Presentation

THIS WAS THE FIRST KUMC admission for this 51-year-old steel worker. His chief complaint was "yellow skin" and swelling of the feet and abdomen. The patient was well until nine months before admission when his friends noted that his skin was yellow. Two weeks later he consulted his personal physician and was hospitalized. We do not know what his physical findings at that time were, but his laboratory studies revealed a total serum bilirubin of 12.2 mg. per cent, direct bilirubin 10.3 mg. per cent, alkaline phosphatase 7.5 units (normal 0.8 to 2.3), SGPT 38 units, and a serum electrophoresis showing an increase in albumin and a decrease in gamma globulin. During that hospitalization, he developed pruritis. He received no specific treatment, but following his discharge he remained at partial bed rest. Two weeks later he was readmitted because of increasing jaundice, and his total serum bilirubin was 18.2 mg. per cent with a direct bilirubin of 13.9 mg. per cent. An exploratory laparotomy was performed, and the pancreas, colon, and liver were considered to be normal. The biliary system was collapsed with no evidence of bile in the biliary tract. Shortly after his discharge he developed anorexia, and on one occasion had right upper quadrant pain for six to eight hours. One month later he was again admitted to the hospital where he remained for two months. During that hospitalization he developed abdominal swelling which responded to diuretic therapy. The color of his urine and feces fluctuated between dark and light. On one occasion he vomited dark vomitus and had melena for several days. Several weeks after his discharge, he

again developed abdominal swelling which began to involve his legs. Because of the progression of all of these signs and symptoms he was referred to the University of Kansas Medical Center.

In 1954, the patient had a squamous cell carcinoma of the lower lip excised. He had had no serious illnesses. His mother died at the age of 75 with "heart trouble" and a "goiter." His father had high blood pressure and diabetes mellitus, and died at the age of 72 of a "stroke." There was no other history of familial diseases. He had smoked one package of cigarettes daily since he was 14 years old. He drank only small amounts of alcohol two to three times a year. He took no medications.

He had had exertional dyspnea for two months before admission, but no orthopnea or paroxysmal nocturnal dyspnea. He denied previous jaundice, hepatitis, gallbladder disease, abdominal pain, vomiting, or change in bowel habits. His weight decreased from 158 pounds nine months before admission to 125 pounds after receiving diuretics two months before admission.

The patient was a thin, intensely jaundiced, emaciated white man who appeared chronically ill, but was euphoric. The blood pressure was 112/75; pulse, 84 and rhythmical; respiratory rate, 24; temperature, 98.4°. The sclerae were deeply icteric. The diaphragms were elevated, and there was bilateral expiratory wheezing and moist basilar rales. The cardiac rhythm was regular, and there were no murmurs, thrills or cardiomegaly. There was distention of the abdomen, and ascites was present. A healed right upper quadrant surgical scar and dilated abdominal veins were noted. The liver was hard, nodular, and tender; and it extended down to the level of the umbilicus on the right. The spleen was felt 3 cm. below the left costal margin. The scrotum was edematous, and the testes were somewhat atrophic. There was internal hemorrhoids. The prostate gland was

Edited by Jesse D. Rising, M.D., and Mahlon Delp, M.D., from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third and fourth year classes of students.

normal. The feces were white. Pitting edema was present from the feet to the lower chest. At the feet and ankle level it was graded four plus. A few spider nevi were scattered over the chest. There was no palmar erythema. The deep tendon reflexes were not elicited in the lower extremities. Otherwise the neurological examination was within normal limits.

The urine contained a trace of albumin; it was positive for bile, and was loaded with bacteria. The white count was 17,900 with 83 per cent neutrophils, 15 per cent lymphocytes, 1 per cent monocytes, and 1 per cent eosinophils. The hemoglobin was 10.5 grams per cent; hematocrit, 34 ml. per cent; reticulocytes count, 3.8 per cent. The VDRL was non-reactive. The sedimentation rate was 27 mm. in 30 minutes and 20 mm. in 60 minutes. The BUN was 13 mg. per cent; creatinine, 1.2 mg. per cent; fasting blood sugar, 66 mg. per cent. The serum albumin was 2.60 grams per cent; serum globulin, 2.46 gm. per cent. The total cholesterol was 190 mg. per cent with 29 per cent esters. The cephalin cholesterol was 1 plus; thymol turbidity, 12 units; prothrombin time, 45 per cent of normal; serum iron, 31 gamma per cent; serum ammonia, 129 mg. per cent; and the SGOT was 146 units per cent. The alkaline phosphatase was 32.8 millimole units; direct serum bilirubin, 12.4 mg. per cent; total serum bilirubin, 22.6 mg. per cent. The sodium was 135 mEq.; potassium, 3.9 mEq.; chloride, 100 mEq.; CO₂, 23.2 mEq.; calcium, 4.6 mEq.; and phosphorus, 2.0 mEq. per liter. The serum lipase was 1.0 unit; 24-hour urinary amylase, 2,375 units. The ascitic fluid contained mesothelial cells that were graded class III. The quantitative urine culture grew out *E. coli* greater than 100,000 per cubic milliliter.

The patient was given various diuretics and his weight dropped from 155 pounds to 116½ pounds on the 24th hospital day. Despite this weight loss he was not clinically improved. A diagnostic paracentesis was done on the fifth hospital day. The fluid was clear and straw colored. The patient was remarkably euphoric during his first few weeks in the hospital, but became progressively more lethargic late in his hospital course. He complained of pruritis and weakness. His jaundice increased, and he died quietly on his 34th hospital day.

Dr. Mahlon Delp (moderator): Are there questions of Dr. Morris?

Mr. Marc Asher (student)*: Did this patient have injections or transfusions, or was there any history of toxic drug exposure?

Dr. J. Harold Morris (resident in medicine):** No.

* Although a student at the time of the conference in March, 1962, he, like the others referred to as students, received the M.D. degree in June, 1962.

** Dr. Morris is now an instructor in the Department of Medicine.

Mr. John Watt (student): Before developing jaundice did he have any other symptoms?

Dr. Morris: No, he did not.

Mr. Hector Hoenig (student): Would you describe the onset and character of his abdominal pain?

Dr. Morris: It started gradually as an aching pain lasting six to eight hours, and was relieved by some form of an antacid—sodium bicarbonate, I believe.

Mr. William Marshall (student): Do we know what the total plasma protein was when the electrophoresis was done?

Dr. Morris: No, I do not believe so. We were only given the percentage. At the other hospital the total protein was 6.5 grams. The albumin was 80 per cent, the gamma globulin was 5.9 per cent.

Mr. Marc Asher: Was a systolic bruit heard over the liver, and was a friction rub heard on deep inspiration?

Dr. Morris: No.

Mr. John Watt: Was a glucose tolerance test done?

Dr. Morris: No. He did have a fasting blood sugar at his local hospital. It was 105 mg. per cent on the first admission.

Mr. Hector Hoenig: Generally, what did repeat blood counts show?

Dr. Morris: His white count ranged from 14,000 to 18,000 and his hemoglobin ranged from about 10.5 to 11.5 grams per cent.

Mr. William Marshall: Were ammonia levels known?

Dr. Morris: No.

Mr. Marc Asher: Did he ever have a flapping tremor, foetor hepaticus, or other signs of impending coma?

Dr. Morris: No.

Mr. John Watt: Did he ever have anything but a trace of albumin in his urine?

Dr. Morris: I believe not.

Mr. Hector Hoenig: What was his level of consciousness during the last few days?

Dr. Morris: He was stuporous.

Mr. William Marshall: What was his temperature course?

Dr. Morris: He was afebrile.

Mr. Marc Asher: Were total serum lipids determined?

Dr. Morris: No, they were not.

Mr. Hector Hoenig: Did his feces remain white?

Dr. Morris: No. The medical student mentioned in his notes on several occasions that they fluctuated from white to a brownish shade, but never deeper than a tan color.

Mr. Hector Hoenig: Was he on diuretics when he entered this hospital?

Dr. Morris: No, but he had been shortly before that.

Mr. William Marshall: Did he have muscular pain, atrophy, or weakness at any time in his hospital course?

Dr. Morris: He was generally weak. He was emaciated, but other than generalized tissue wasting there was no specific atrophy.

Mr. Marc Asher: Was his past dietary intake adequate?

Dr. Morris: Before the onset of his present illness it seems to have been normal.

Dr. Delp: Any other questions?

Dr. Delp: Do you think there was any fluctuation in the intensity of his jaundice at any time while he was here?

Dr. Morris: He became progressively more jaundiced.

Dr. Delp: What was this man's occupation?

Dr. Morris: He was a laborer. Other than that I do not know.

Dr. Delp: Are there any steel mills in Wichita? Maybe he was a worker in steel construction. No? Thank you, Dr. Morris. Mr. Hoenig let us have your interpretation of the electrocardiograms.

Electrocardiograms

Mr. Hector Hoenig: This is the admission EKG (*Figure 1*) which shows a sinus rhythm with a rate of approximately 85. There is low amplitude of the T waves in the limb leads. The R waves progress normally across the chest. I would say that this is a normal EKG. Lead II taken later shows the sinus rhythm is preserved. The rate is 75 at this time, and the T waves have returned to a more normal configuration.

Dr. Delp: Thank you, Mr. Hoenig. Mr. Watt may we see the x-rays?

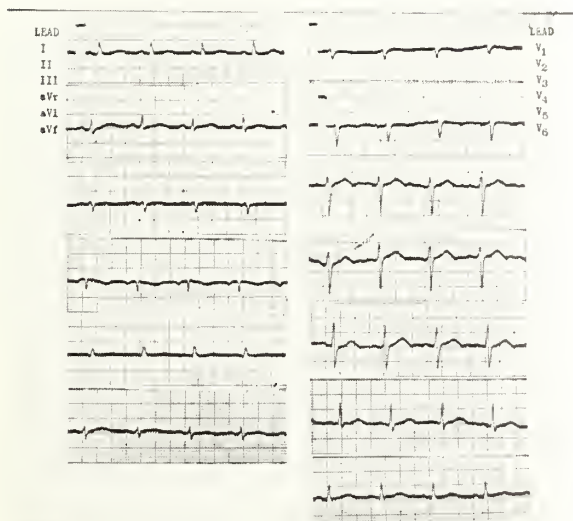


Figure 1. Electrocardiogram made on the day of admission.

X-Rays

Mr. John Watt: In the chest film (*Figure 2*) there is an elevation of the diaphragm to the level of the seventh rib on the right and the eighth on the left. I see no other abnormalities. In the KUB film (*Figure 3*) there is a normal gas pattern with a diffuse haziness throughout the film which I attribute to ascites. I do not see the liver outlined in this film.

Dr. Delp: Do you have any comments about the diaphragm which you see in the lateral film?

Mr. Watt: It appears to be pushed up anteriorly more than normally. Other than that I do not see anything.

Dr. Delp: All right. Dr. Germann, have you any comments?

Dr. Donald Germann (radiologist): I might add one or two points in regard to the differential diagnosis in a person of this type. On the upright film of the chest you note that the colon is pushed out of the upper, right quadrant. This would imply that there is a huge mass in the upper abdomen. It makes me think that this man did have a large liver in contrast to changes entirely secondary to ascites. The anterior half of the diaphragm is elevated more than the posterior which would again go along with this being a very large liver mass.

Dr. Delp: Thank you, Dr. Germann. All right, Mr. Marshall, may we have your discussion.

Differential Diagnosis

Mr. William Marshall: The case for presentation today is that of a 51-year-old white man who was in his usual state of health until ten months before death at which time he developed rapidly progressive jaundice as an initial symptom, and subsequently developed right upper quadrant pain, ascites, and peripheral edema. He presented at this hospital one month before death with the additional finding of hepatosplenomegaly, testicular atrophy, and spider nevi. Extrahepatic biliary obstruction such as caused by carcinoma of the head of the pancreas, common duct stones, carcinoma of the duodenum, carcinoma of the ampulla of Vater, extrahepatic biliary tract carcinoma, and metastatic tumors to the lymph nodes of the porta hepatis are incompatible with the finding of a collapsed biliary tree at the time of the laparotomy which was performed when the total serum bilirubin had already reached 18.2 mg. per cent.

Of the infiltrations of the liver, only lymphosarcoma and Hodgkin's disease need to be considered, and they can be dismissed because of the lack of a compatible clinical course in this patient. Toxic hepatitis is excluded because of the clinical course, as these people are almost uniformly severely ill early in their disease. Hypersensitivity drug reactions are unlikely because of the lack of a history of exposure. The rarer causes of cirrhosis such as hemochromatosis,



Figure 2. Admission chest film.

hepatolenticular degeneration, schistosomiasis, and echinococcus cyst were not indicated by the clinical history. Laennec's cirrhosis can be excluded as the primary disease in the absence of clinical evidence of liver disease before the onset of the present illness, the lack of an alcoholic history, a history of good nutrition, the finding of a large nodular liver on physical examination, the finding of a normal liver on laparotomy, and the absence of parotid swelling, glossitis, colitis, white nailbeds, and clubbing of the fingers, together with a normal globulin, and normal cholesterol flocculation.

Viral hepatitis may be prolonged and lead to death, but one sees initially a prodromal fever, anorexia, and weakness in about 80 per cent of infectious hepatitis patients and 20 per cent of serum hepatitis patients. There is no history to support the latter diagnosis. The former may progress to cirrhosis with liver failure, portal hypertension, and ascites; but the liver is small and finely nodular, the transaminase is severely elevated, and the course is usually not unrelenting and leading to death in a few months. Occasionally patients with a typical onset of acute viral hepatitis develop clinical and laboratory findings suggestive of biliary obstruction which has been labeled cholangiolytic hepatitis. Chlorpromazine and methyltestosterone may produce an identical picture. This usually resolves, but may enter a rapidly developing phase



Figure 3. Flat plate of the abdomen.

which is fatal in a few months. The liver is enlarged, but it is smooth and there is no splenomegaly. The serum cholesterol is relatively and absolutely elevated to very high levels. The preceding excluded this diagnosis.

Metastatic carcinomas of the liver are about three times as common as primary liver carcinomas. The most common site of primary carcinoma from which these metastases arise are the stomach, gallbladder, pancreas, esophagus, colon, rectum, and small intestine. These cannot definitely be excluded, but the history of a recent diagnostic laparotomy which failed to reveal a primary site of intra-abdominal malignancy makes the diagnosis unlikely. We realize, however, that sites of primary tumor may be overlooked in examining gross material. Bronchogenic carcinoma can produce metastases to the liver, but is unlikely because of the absence of cough and hemoptysis. It is said that even when the primary lesions are obscure melanoblastomas and neuroblastomas frequently metastasize to the liver, and produce tremendous enlargement. Even though we cannot definitely rule out such an event in this patient we feel we are not forced into such a diagnostic corner.

Finally, we will consider the primary tumors of the liver. Benign tumors do not produce a rapid fulminating clinical course such as our patient had. Malignant hemangioepithelioma almost always gives blood stained ascites. Sarcoma is very rare, and is usually seen in children. Hodgkin's disease that is primary in the liver is extremely rare.

We come to the two major types of primary liver carcinoma—hepatoma and cholangioma. In one review of the autopsies in the United States up to 1951 these tumors were said to occur in about 0.27 per cent of all autopsies, and they comprised 2.5 per cent of all tumors. The hepatic cell carcinoma is variously reported as being from two to five times more common than the cholangioma. Seventy-five per cent of hepatic cell carcinomas occur in patients with already existing Laennec's or post-necrotic cirrhosis, and 20 to 25 per cent of cholangiomas occur in people with existing Laennec's or post-necrotic cirrhosis. Both types of tumors can give the picture of obstructive jaundice that was seen initially in our patient, but jaundice is usually not the presenting symptom. The average life expectancy after development of hepatic cell carcinoma is six months, and after cholangioma, it is only slightly longer. Our patient died in ten months. He presented with jaundice, compatible with intrahepatic obstruction as borne out by the laboratory findings and diagnostic laparotomy. The early appearance of jaundice with a grossly normal liver is considered to be due to an anatomic placement of the tumor either being selectively located in the liver substance near the hilum, or, less likely, diffusely involving the liver without any involvement of the capsular area. The patient subsequently developed right upper quadrant pain which is common in hepatic cell carcinomas, but in two months he developed ascites, and showed evidence of gastrointestinal hemorrhage. When seen in this hospital several weeks later, he showed progressive tumor growth evidenced by a large tender nodular liver, and pitting edema that extended to the lower chest. We feel the latter finding can be explained on the basis of tumor compression (or invasion) of the portal vein or of the inferior vena cava or both. We believe that this chain of events was caused by primary liver carcinoma originating intrahepatically in the hilar area. This type of carcinoma probably cannot be diagnosed by the clinical picture, but, realizing the need for one diagnosis, we rely heavily on statistics and choose hepatic cell carcinoma. Because of the association of hepatoma and Laennec's cirrhosis, there is always the possibility that subclinical cirrhosis may be seen by the pathologist.

We believe that the most likely cause of death was massive gastrointestinal hemorrhage, as either a primary or complicating factor. An interesting fact about primary liver carcinoma was recently pointed out by MacDonald in the *New England Journal of Medicine*. He showed that in Boston the incidence of primary carcinoma had increased by greater than 100 per cent in comparing the years 1917 to 1936 with the years 1947 to 1954. He also showed that 221 recent cases of post necrotic cirrhosis 14 per cent developed hepa-

toma, associating this with the increase in viral hepatitis.

Dr. Delp: Thank you Mr. Marshall. What is your diagnosis, Mr. Asher?

Mr. Asher: Hepatoma.

Dr. Delp: Mr. Watt?

Mr. Watt: Hepatic cell carcinoma.

Dr. Delp: Do you have a second diagnosis, Mr. Asher?

Mr. Asher: Cholangioma or bile duct adenocarcinoma.

Dr. Delp: Mr. Marshall, what is yours?

Mr. Marshall: Bile duct carcinoma involving the bifurcation of the hepatic duct.

Dr. Delp: I want some further explanations for the collapsed extrahepatic tract that was found at the time the patient was explored.

Mr. Asher: If the obstruction was anatomically placed near the hilar area, but inside the liver, it could cause obstruction decreasing the outflow of bile into the biliary tree.

Dr. Delp: Mr. Watt.

Mr. Watt: This is the picture described when the hepatic duct is obstructed with carcinoma. I have no other explanation.

Dr. Delp: Do I understand by that that you think the patient had carcinoma of the hepatic duct?

Mr. Watt: No, I think it was obstructing the hepatic duct.

Dr. Delp: What do you think of making a diagnosis of primary carcinoma of the liver in the absence of a history of cirrhosis, Mr. Asher?

Mr. Asher: Well, I only know that primary hepatic cell carcinoma of the liver does occur without preceding cirrhosis. This lessens the statistical assurance with which we make this diagnosis, but it can occur without Laennec's cirrhosis.

Dr. Delp: I think that Dr. Boyd has been credited with having said that primary carcinoma of the liver is of high incidence in two areas on this continent. One of them is Vancouver. The other is Alabama. Now, would you have any explanation for this?

Mr. Asher: I think I would have to say it was poor nutrition in Alabama, and this might account for the higher incidence.

Dr. Delp: Well, then, I should make it a little more complex. He said that the incidence was much greater in colored, but no greater in the white population in Alabama. Why would you think there might be an increased incidence in Vancouver if this is so, Mr. Asher?

Mr. Asher: Well, these are two areas of the world that might be infested with parasites, and there is an increased incidence of this tumor with people who have schistosomiasis, echinococcus cysts, and things like that.

Dr. Delp: How in the world would those things get in Vancouver? Can you account for this patient's vomiting of blood, Mr. Marshall?

Mr. Marshall: Probably esophageal varices resulting from portal hypertension.

Dr. Delp: Is this a common finding in carcinoma of the liver?

Mr. Marshall: It is frequently associated with obstruction of the portal system.

Mr. Hoenig: In 28 of 33 hepatomas which came to autopsy in one study all had invasion of the portal vein by the tumor. Not all of them were occluded, however, and not all of them had clinical evidence of portal hypertension.

Mr. Watt: I think he had erosion into his portal vein.

Mr. Asher: I think in people with hepatocellular failure there is bleeding, and his is especially seen in the gastrointestinal tract. I do not think he necessarily has a primary bleeding lesion, but just generalized mucosal bleeding.

Dr. Delp: How do you account for his persistent leukocytosis in the absence of any fever?

Mr. Asher: This is described as a finding in primary hepatic cell carcinoma by most of the writers in the literature.

Dr. Delp: Dr. Manning, I noticed you had a "number one" diagnosis when you saw this patient, and then later on there appeared on the chart a "number two" diagnosis. I can tell by the character of the ink that it was put on quite some time later.

Dr. Robert T. Manning (internist): Now, if I remember correctly, the first diagnosis was hepatoma.

Dr. Delp: No, that was not your "number one" diagnosis.

Dr. Manning: It was not? Well, then, I do not remember correctly. When I saw this man he was extremely jaundiced, massively distended with ascites, and had a liver that was very large, quite hard, and could be ballotted. It was obvious from the liver function studies that he had some sort of defect in bile flow. I saw him primarily because he had high alkaline phosphatase, and it is extremely uncommon for patients with Laennec's cirrhosis to have high alkaline phosphatase values. By high I mean over six-and-a-half or seven millimole units. The question arose whether he had an intrahepatic obstruction or extrahepatic obstruction. He could have had a common duct stone, a carcinoma of his ampulla, or a carcinoma anywhere along the biliary tract. He could also have had an intrahepatic obstruction. I do not really recall what I did write down as a first diagnosis, but in reviewing the case I am convinced he must have had a hepatoma. I thought that at the time I examined him he did have a few spiders, and it seemed quite likely that he did have some degree of

cirrhosis despite the report of the "normal liver" at the previous exploratory operation.

It is easy to assume that, since the ducts were collapsed at surgery, there was no drainage of bile in the extrahepatic biliary system. I think that all you could say for this is that there probably was not any bile getting there. It does not mean that he had a carcinoma. It could also be explained by hepatitis or some other inflammatory process in the liver producing a lack of biliary flow. As to the presence of esophageal varices and portal hypertension: hepatomas are quite prone to invade blood vessels. These people do develop portal hypertension, and they sometimes develop in a most fulminant fashion as tumor masses occlude the branches of the hepatic vein.

Dr. Delp: Your first diagnosis was carcinoma in the region of the ampulla, Dr. Manning, and this meant only that you had completely disregarded the information in the history to the effect that the extrahepatic biliary tract was completely collapsed. You will admit that won't you?

Dr. Manning: Yes.

Dr. W. Graham Calkins (internist): When I first read over this protocol I felt this was a straightforward case of hepatoma, but as the CPC has progressed I have more and more doubts about it. One thing that concerns me is the "grade three" mesothelial cells that were in the ascitic fluid. I wonder if this patient might not have had some weird thing such as a mesothelioma. We can assume, I think, that the liver was perfectly normal when the surgeon did explore the abdomen; at least it was not grossly a postnecrotic or cirrhotic liver because these are always fairly evident to the surgeon. Furthermore, there were no obvious metastases. So something happened to make his liver enlarge quite markedly in the succeeding nine months. I will still stick with my original diagnosis of hepatoma occurring in a previously normal liver. As you know most hepatomas occur in postnecrotic cirrhotic livers, but they can occur in a previously normal liver.

Dr. Maxwell G. Berry (internist): I probably would have put hepatoma down as part of the first diagnosis, but this is a little bit tricky. One of the things that crossed my mind in reading the case and seeing that deformed right diaphragm in the chest film was whether it be possible for this man to have an abscess of his liver from amebiasis, yet have no fever, even though he had the elevated white count. I do not think I have ever seen one without fever, so I think I will have to rule this out.

Dr. Robert Brown (internist): I would like to call your attention to the total bilirubin of 12.2 and especially the direct bilirubin of 10.3 which is rather high. I do not know that I have seen enough intrahepatic obstruction, which I think this is, to equal this.

It seems to me that this is an intrahepatic obstruction of some sort of a non-infectious type—probably a cholangiolar carcinoma. I think it is impressive from a clinical point of view that this man's thinking processes, although it is mentioned that he had euphoria, were very well maintained until he was terminal. This to me suggests more an infiltrative carcinoma, hepatoma, or metastatic disease to the liver rather than cirrhosis, because people who have an underlying cirrhosis are much more prone to develop the signs and symptoms of hepato-cerebral intoxication. I think that the man did start with a normal liver, and whatever happened to infiltrate into the liver, and I think it was a tumor, the rest of the liver cells were able to keep him compensated up to very near the end of his life. I would say that if we had a history of drug ingestion of the chlorpromazines in this man, this clinical course would not be incompatible with one or two cases that have been reported following the ingestion of drugs.

Dr. Delp: Dr. Higginson, may we have your report?

Dr. John Higginson: The body was that of an emaciated man with severe icterus of the skin. There was tense swelling of the abdomen due to the peritoneal cavity containing six liters of blood-tinged fluid, and the collateral veins in both flanks were prominent. A biopsy needle puncture mark was present in the right hypochondrium.

The most interesting lesions were in the liver, which weighed 4,700 grams and was greatly enlarged. The surface was irregularly nodular, and dark greenish-gray in color. On cross section, in the region of the porta hepatis, a large dark green tumor mass was present growing towards the periphery. It measured 10 to 12 cm. in diameter (*Figure 4*). This was surrounded by more discrete tumor masses of smaller size. The liver tissue intervening between the tumor masses was dark green and bile stained with some evidence of increased fibrosis. Many of the intrahepatic portal vein tributaries were occluded by tumor tissue (*Figure 4*). Posteriorly where the inferior vena cava ascended behind the liver it was tortuous and the anterior wall was infiltrated by necrotic dark greenish tumor tissue which protruded into the lumen, partially occluding it. The portal vein was also involved by similar tumor tissue and was obstructed at the point of the mesenteric and splenic veins.

A most interesting feature was the fact that the common hepatic duct was markedly dilated and completely obstructed by an ovoid 3 x 4 x 3 cm. greenish tumor which had grown from the liver through the wall, and both the right and the left hepatic ducts were obliterated beyond gross recognition (*Figure 5*). A second tumor mass was present at the neck of the gallbladder close to the cystic duct, which was appar-



Figure 4. Picture showing tumor in the region of the porta hepatis. A tumor embolus can be seen in a branch of the portal vein in the upper portion of the photograph.

ently constricted although the lumen could be identified. Secondary tumor was present within the wall of the cystic duct.

The gross features were typical of hepatocellular carcinoma, and histological examination confirmed this diagnosis, the nature of the tumor being very apparent in the emboli in the veins (*Figure 6*). The tumor was composed of sheets of acidophilic epithelial cells with a trabecular arrangement. In some areas these cells showed an adenoid appearance with bile-stained material in the center of the acini. The features were those of a typical bile secreting hepatocellular carcinoma. Section of the non-neoplastic liver showing marked fibrosis in the portal areas with an increased number of small bile ducts. In addition there was considerable evidence of intrahepatic biliary obstruction as indicated by bile thrombi and bile staining of the cells. The features were those of a severe biliary fibrosis proceeding to an early biliary cirrhosis.

Of the other organs, the kidney showed degeneration of the tubules and numerous bile-stained casts were present in the lumen, the features being those of a cholemic nephrosis. No significant lesion was found



Figure 5. Tumor mass occluding the common hepatic duct.

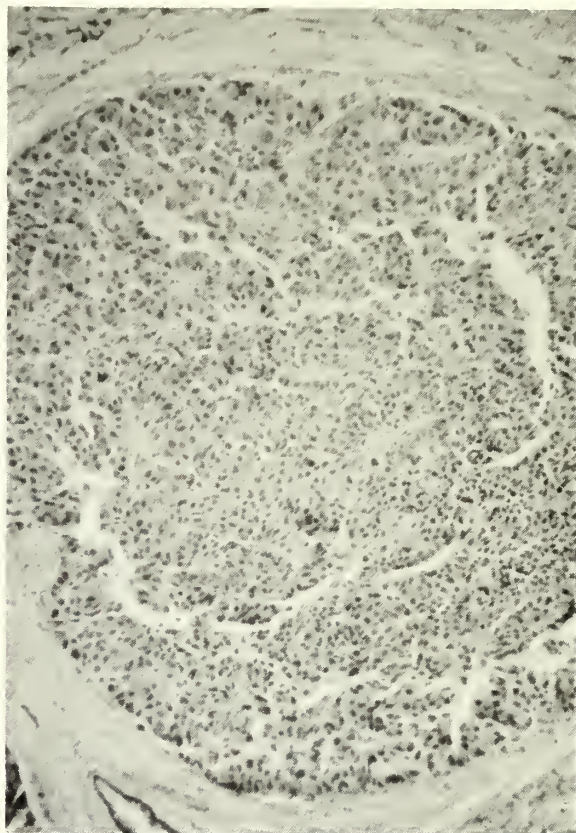


Figure 6. Section of tumor embolus in branch of portal vein showing typical histological features of a hepatocellular carcinoma.

in the pancreas. The lungs showed patchy emphysema, but in addition it was possible to find scattered tumor emboli in various branches of the pulmonary artery. The testes showed a moderate degree of atrophy and decreased spermatogenesis with thickening of the basement membrane and prominent Sertoli cells.

In summary, this was a case of hepatocellular carcinoma arising in the hilar region with secondary obstructive changes in the liver. This is one of the less common presentations, hepatocellular carcinoma being more commonly seen in a hilar carcinoma arising from the intrahepatic bile ducts. It is of interest that the changes present in the rest of the liver in this case are not the usual portal or postnecrotic cirrhosis of the long intrahepatic bile ducts, but are apparently secondary to obstruction. It is of interest that in the original biopsy a diagnosis of hepatic obstruction was made. The etiology of these liver cancers is unknown, but it seems doubtful that nutrition is a direct cause. In the United States no significant differences have been observed in the incidence between the colored and the non-colored population, nor has there been any significant increase in recent years. This tumor is most commonly observed in Africa and Asia and is

reported to be high in Chinese immigrants into Canada.

To return to the remarks made earlier about the high incidence of hepatoma in Vancouver: it has been suggested that it is because of the high proportion of Chinese in their population. Regarding Alabama, poor nutrition is not a direct cause of cancer of the liver despite statements to the contrary in many textbooks. The figures in the United States show no difference in the incidence of primary carcinoma of the liver between Negro and white populations.

Dr. Delp: Thank you, Dr. Higginson. Any questions of Dr. Higginson?

Mr. Hoenig: Did you find esophageal varices?

Dr. Higginson: There were slight esophageal varices, but they were not prominent.

Mr. Hoenig: Do you think the patient had cirrhosis prior to the development of carcinoma?

Dr. Higginson: I cannot answer this question. The first biopsy showed an obstructive biliary cirrhosis. A certain portion of hepatocellular carcinomas do however arise in relatively normal livers. Many of them arise in what has been described as "non-cirrhotic" livers, but they are not strictly normal because one

can find evidence of an old hepatitis or something like that. So I would not like to commit myself to what the livers actually did look like. Remnants of hepatitis could be present in the absence of a cirrhosis.

Dr. Delp: This is not a rare case. It does have one puzzling clinical feature which is more annoying to the clinicians than it is to the pathologists, of course, because they have the final word. It does discourage me a little bit about a rule of thumb that I have had for a long time. In a good many difficult-to-diagnose cases of liver disease you simply have to resort to exploration, and this is one of those situations in which the exploration did us no good whatsoever.

Primary Diagnosis

Hepatocellular carcinoma with extension into the common hepatic duct and neck of the gallbladder; tumor infiltration of the intrahepatic and extrahepatic portal vein tributaries and inferior vena cava; hepatic necrosis, moderately severe.

Biliary cirrhosis.

Ascites.

Testicular atrophy.

Lipid depletion of the adrenals.

Partial obstruction of the tracheobronchial tree by mucus; atelectasis of the lower lobes of both lungs.

Erythroid hyperplasia and myeloid hyperplasia of the bone marrow.

Reference

"Cirrhosis and Primary Cancer of the Liver in Trans Saharan Africa." Edited by Davies. Mono 1. African Cancer Committee. U.I.C.C. Acta. Louvain.

Book Reviews, Films and Pamphlets

(Continued from page 42)

Health, State Office Building, Topeka. Return postage is the only expense.

CHAIN OF CARE is a documentary film showing comprehensive, coordinated facilities for mental health services—the community mental health center, the psychiatric unit in the general hospital, the psychiatric hospital, and the aftercare center.

HEADED FOR TROUBLE is an "open end" discussion film designed to help viewers see how community groups and agencies can work together to help solve the problem of juvenile delinquency.

MENTAL HEALTH CAREERS shows high school students the many professional and vocational opportunities open to them in the mental health field.

MOMENT TO ACT is designed to motivate the average community member to ways of helping former mental patients through local church fellowships.

THE CRY FOR HELP is concerned with the han-

dling of suicidal persons by the police; an excellent film for educational programs of all types.

YOUTH AND THE LAW pinpoints some of the problems of youth in contemporary community life, and shows the work of police and other community organizations in guiding youthful energies into constructive channels.

VERDICT AT 1:32 is a dramatized depiction of the effects of alcohol on the brain.

For a complete description of films, write to Health Education Services of the State Department of Health.

Drugs Used in Psychiatry

(Continued from page 37)

to choose a few representative drugs, of scientifically demonstrated potency and minimal toxicity, and to use them to the exclusion of others. "Playing the field" prevents the accumulation of a body of personal knowledge about a few useful drugs. All prescriptions for these drugs should be non-refillable, and careful supervision of the patient for side effects should be maintained. A careful appraisal must be made in each instance of the danger of a possible slowing in reaction time: can the patient, for example, safely drive a car? Psychiatric consultation prior to or during pharmacotherapy may often be helpful in planning therapeutic management.

Postgraduate Education

(Continued from page 40)

ingness to conduct an ongoing seminar for general physicians with the names of physicians in their communities who had indicated an interest in such a seminar.

In other words, we conducted a "consumer survey," and made the needs and wishes of the physicians of Kansas known to educational and service agencies and professionals that might be able to provide specialized postgraduate training. It is too early at this time to evaluate the long-range results of this program.

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The President's Message

DEAR DOCTOR:

On Sunday, December 8, the House of Delegates, assembled at Topeka, disapproved the restrictive Board of Social Welfare concept of the Kerr-Mills program for this state. Decisive action on this day reaffirmed Society policy that:

1. Kerr-Mills in Kansas shall protect persons over age 65 who experience catastrophic illness from becoming wards of the state;
2. The Kansas State Board of Social Welfare, disregarding much of the legislative intent, including the eligibility definition and the provision for prepayment financing, established a narrowly confined program under which only a select few might qualify;
3. The Kansas Medical Society cannot support this program;
4. The physicians of this state will continue, as they always have, to serve all people of Kansas, including the aged;
5. The Kansas Medical Society will continue its effort to give Kansas a beneficial Kerr-Mills program whenever the Board of Social Welfare desires to do so.



Sincerely,

H. St. Clair O'Donnell M.D.

President



Below is reproduced a letter expressing gratitude for the services rendered by an unknown Kansas physician. Today when medicine is criticized from many areas we know this letter will be appreciated by the physician, whoever he was, who stopped at the scene of the accident. We think it might also be read with some pride and with some pleasure by all physicians.

Kansas Medical Association
Topeka, Kansas
Gentlemen:

On November 2, 1963, our father and mother were involved in an automobile accident on Highway No. 50 just west of the Waverly, Kansas, junction. In this accident our father was seriously injured—his head having gone through the windshield resulting in multiple cuts to the head, one cut having severed the temple artery on the left temple.

Just after the accident happened a doctor came along in his car, stopped and tied this severed artery—no doubt saving our father's life—the doctor got in his car and drove away without telling anyone who he was or where he was from.

We want to take this means of thanking this doctor for this act of mercy for which we shall ever be grateful. There are not adequate words with which to thank him for having stopped and performed this service.

Our parents were taken to the Newman Memorial Hospital and were taken care of by Drs. Underwood and Hopper and we could never hope to find better service and more friendly people with which to come in contact, and being strangers and under the circumstances, this meant a great deal to us.

Thanking these wonderful people again for what they did, we are,

Sincerely yours,
Jacob C. Hartman & Family

MEDICAL JOURNALISM AWARDS PROGRAM

The American Medical Association has announced a \$5,000 medical journalism awards program "to recognize journalism that contributes to a better public understanding of medicine and health in the United States."

Awards of \$1,000 each will be presented for outstanding reporting on health and medicine in five categories—newspapers, magazines, radio, television, and in newspaper editorial writing. They are intended for recognition of outstanding reporting of the scientific and clinical aspects of medicine, and will be presented for the first time in 1965, based on work published or broadcast during the calendar year of 1964.

Entries and inquiries may be sent to the 1964 Medical Journalism Awards Committee, American Medical Association, 535 North Dearborn Street, Chicago, Illinois. Deadline is February 1, 1965, although entries may be submitted at any time prior to that date. The awards will *not* be given for work, however excellent, that involves primarily the relaying of medical knowledge to the medical profession and allied professions. Members of the medical profession, medical associations and their employees are not eligible to submit entries.



Blue Shield

Deferred Compensation Plan to Be Studied by Blue Shield and Physicians

During the past several months, Blue Shield has pursued study and preliminary development of a plan for deferred compensation to be made available to participating physicians. The basic purpose behind consideration of such a plan is to strengthen Kansas Blue Shield by adding an incentive to practicing physicians to participate in Blue Shield and thereby broaden the base of service to the subscribing public.

Such a Deferred Compensation Plan would be supported through the establishment of a fund to be created by amounts withheld from Blue Shield payments to participating physicians.

The plan received consideration at a November 17 meeting of the Society's Committee on Medical Economics and was subsequently presented to the House of Delegates at its December 8 meeting. The House of Delegates passed a resolution requesting Blue Shield to proceed with development of a Deferred Compensation Plan including a requirement that any physician who wishes to participate in Blue Shield also participate in the Deferred Compensation Plan, at least to the extent of 5 per cent of his Blue Shield income. The resolution further stated that official action on a finalized plan would be taken by the Society at their annual meeting in Topeka, May 4-6, 1964.

Details of the Plan at This Stage of Development

ESTABLISHMENT OF FUND: Created by withholding 5 per cent from Blue Shield payments to participating physicians. Individual physicians would have an option of requesting that any additional percentage in increments of 5 per cent might be withheld to their credit up to 100 per cent of Blue Shield payments.

WITHDRAWALS FROM FUND: That amount accumulated in behalf of an individual participating physician would be payable to him on the following bases:

- Upon his retirement, in a lump sum or in ten annual installments as requested.
- Upon his permanent and total disability, following the same basis as in respect to retirement.
- Upon his death, payment to be made to his estate.
- Upon Blue Shield's dissolution or bankruptcy.

INVESTMENT OF FUND: This would involve the utilization of investment services of a Kansas bank. Upon their advice, the Blue Shield Board, acting through its Executive Committee, would determine and revise investment policies as conditions indicated.

Individual accounts of each participating physician would increase according to his monthly contribution plus a proportionate share of the income from fund investment. A proportionate share of the cost of fund administration would be charged to each account, probably to be less than 10 per cent of investment earnings.

It is believed that the plan would provide a deferred income acceptable to the Internal Revenue Service. Similar programs are functioning in two other Blue Shield Plans, and a favorable court decision was obtained when a Montana Blue Shield plan similar to the one described was tested.

Blue Shield seeks to inform all Kansas physicians about the plan and its specifics prior to Kansas Medical Society's Annual Meeting. Blue Shield Staff will be available to explain details of the plan to local societies upon invitation.



Personalities—IN KANSAS MEDICINE

Harold and Alice Patterson, both physicians in Larned, left in November for India where they will spend two months performing eye surgery at various church mission hospitals.

William E. Mowery, Salina, was one of the speakers at the Cancer Education and Service workshop held in Salina in November. The purpose of the workshop was to acquaint the volunteer worker in the field of education and service.

The Kansas Dietetic Association received a report on the People-to-People program from **Harold W. Brooks**, Wichita, during their convention at the Allis Hotel in Wichita. The meeting was held in November.

Ward M. Cole, Wellington, is the newly elected president of the Sumner County Mental Health Association.

The Atchison Chamber of Commerce has elected **Robert O. Brown** to their board of directors. The new directors will serve a three-year term.

Herbert R. Schmidt, Newton, began an around-the-world tour of mission hospitals in December. He will visit with Dr. Albert Schweitzer at his jungle clinic in Africa for several days.

In Sung Kwak, Norton, was recently elected president-elect of the Kansas Thoracic Society. Other officers elected for the coming year were: **M. Martin Halley**, Topeka, president; **William Ruth**, Kansas

City, secretary-treasurer; and **William Nice**, Topeka, and **Paul Carpenter**, Kansas City, representatives-at-large.

Karl K. Targownik, clinical director and acting superintendent of the Kansas State Reception and Diagnostic Center, spoke at the November meeting of the Topeka Welfare Planning Council. He discussed services provided at the new penal institution.

John Travis, Topeka, discussed "Radiation Therapy" at the sixth annual refresher course in x-ray technology at the University of Kansas Medical Center. The course was held in November.

Martin Halley, Topeka, has been elected president of the Topeka Blood Bank, Inc. **Waitstill Nickell** is the newly elected vice president.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Norman W. Anderson, M.D.

State Board of Health
State Office Building
Topeka, Kansas

Kasumi Arakawa, M.D.
Kansas University Medical
Center

Rainbow Boulevard at
39th Street
Kansas City, Kansas

Richard A. Field, M.D.
212 Medical Arts Building,
West
Topeka, Kansas

Richard C. Ibarra, M.D.
759 Vermont
Kansas City, Kansas

Gerald T. Kennedy, M.D.
3011 East Central
Wichita, Kansas

Bruce P. Meeker, II, M.D.
435 North Hillside
Wichita, Kansas

Clarence F. Steinbach, M.D.
4125 Gage Center Drive
Topeka, Kansas



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Advances in tracer methodology. v.1. Plenum, 1963.
- Albanese, A. A., ed. Newer methods of nutritional biochemistry. Academic, 1963.
- Ballantyne, A. J. and Michaelson, I. C. Textbook of the fundus of the eye. Williams & Wilkins, 1962.
- Bergler, Edmund and Meerloo, J. A. M. Justice and injustice; the origin of the sense of justice and its relation to everyday life, the law, and the problems of juvenile delinquency and crime. Grune & Stratton, 1963.
- Berry, T. J. The hand as a mirror of systemic disease. Davis, 1963.
- Bickerstaff, E. R. Neurological examination in clinical practice. Davis, 1963.
- Borasky, Rubin, ed. Ultrastructure of protein fibers. Academic, 1963.
- Brantigan, O. C. Clinical anatomy. McGraw-Hill, 1963.
- Branwood, A. W. Modern concepts of the pathogenesis of coronary atherosclerosis. Livingstone, 1963.
- Brooks, T. J. Essentials of medical parasitology. Macmillan, 1963.
- Carson, H. L. Heredity and human life. Columbia University, 1963.
- Catzel, Pincus. The paediatric prescriber. 2d ed. Davis, 1963.
- Clark, J. M. P., ed. Modern trends in orthopaedics. 3. Fracture treatment, Butterworths, 1962.
- Cole, W. H. and Zollinger, R. M. Textbook of surgery. 8th ed. Appleton-Century-Crofts, 1963.
- Cope, Sir Zachary. The early diagnosis of the acute abdomen. 12th ed. Oxford, 1963.
- Cyriax, J. H. Text-book of orthopaedic medicine. 4th ed., rev. Cassell, 1962.
- Euler, U. S. von and Heller, H., eds. Comparative endocrinology. Academic, v.1, 1963.
- Glaser, G. H., ed. EEG and behavior. Basic, 1963.
- Gradwohl, R. B. H. Clinical laboratory methods and diagnosis. 6th ed. Mosby, 1963.
- Hochster, R. M. and Quastel, J. H., eds. Metabolic inhibitors. Academic, v.1, 1963.
- Hougie, Cecil. Fundamentals of blood coagulation in clinical medicine. McGraw-Hill, 1963.
- Jackson, B. B. Occlusion of the superior mesenteric artery. Thomas, 1963.
- Kass, C. E. Some psychological correlates of severe reading disability (dyslexia). University Microfilms, 1962.
- Lewis, J. R. The surgery of scars. McGraw-Hill, 1963.
- Lewis, K. R. and John, B. Chromosome marker. Little, Brown, 1963.
- Mitchell, H. H. Comparative nutrition of man and domestic animals. Academic, v.1, 1962.
- Morse, D. P. Indications for open-heart surgery. Thomas, 1963.
- Neurochemistry Symposium, Rome, 1961. Brain lipids and lipoproteins, and the leucodystrophies. Elsevier, 1963.
- Orbison, J. L. and Smith, D. E., eds. The peripheral blood vessels. Williams & Wilkins, 1963.
- Pearsall, Marion. Medical behavioral science. University of Kentucky, 1963.
- Postlethwait, R. W., ed. Results of surgery for peptic ulcer. Saunders, 1963.
- Sainsbury, Peter and Kreitman, Norman, eds. Methods of psychiatric research. Oxford, 1963.
- Sevitt, Simon. Fat embolism. Butterworths, 1962.
- Shirley, H. F. Pediatric psychiatry. Harvard University, 1963.
- Simon, H. J. Microbes and men. Scholastic, 1963.
- Smith, R. H. Electrical anesthesia. Thomas, 1963.
- Thorpe, W. H. Biology and the nature of man. Oxford, 1962.
- Van Riper, C. G. Speech correction, 4th ed. Prentice-Hall, 1963.
- Varley, Harold. Practical clinical biochemistry. 3d ed. Interscience, 1962.



Book REVIEWS

HANDBOOK OF PEDIATRICS—Silver, Kempe and Bruyn. Fifth edition. Lange Medical Publications, Los Altos, California, 1963. 602 pages. \$4.00.

The fifth edition of the handbook is an excellent and compact source of material needed in clinical pediatrics which might not be entrusted to memory. Height and weight tables, drug dosages, normograms, tables of ossification and other normal values are readily found in this pocket sized handbook, readable and useful. There are good summaries of suggested fluid management in varied maintenance and repair problems. The medical student and house officer will find the handbook of considerable help in differential diagnosis. An outline of clinical findings, treatment and course and prognosis is presented for most of the pediatric diseases.

The book is a handbook and not a substitute for the training and experience required to render sound clinical pediatric judgment and it is not intended to be such a substitute. It is an excellent aid which can be kept at hand for the physician learning pediatrics, and a ready source of material which the experienced clinician does not have on the tip of his tongue, but the handbook is not designed for, and should not be used to practice "cookbook" medicine. The limitations of space requires that a great deal of information be condensed and, therefore, the presentation is in more or less outline form which lends itself to this dangerous practice.

There are some details of management with which any pediatrician would perhaps disagree because of his training and experience. The rather free use of subcutaneous fluids in dehydrated infants, particularly those containing high concentrations of electrolyte as recommended herein, present quite a danger particularly in the hands of the inexperienced physician or nursing staff. A chapter on emotional problems in pediatrics is presented and covers an extremely important and complex subject in all too brief space. This would give the impression that these problems

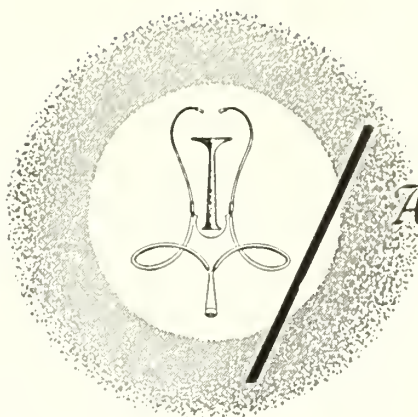
are as simple as the short space allotted to them. This section could have been left out entirely rather than given this inadequate coverage. Several other subjects which are covered elsewhere by entire volumes of material are mentioned briefly, for completeness sake, by a few inadequate words. The impression given to the inexperienced reader would be entirely wrong. To the student who is under the guidance of an experienced clinician, or to the trained clinician who needs a ready source of data, the book is of great value. It is of no value, and even potentially hazardous, in the hands of one who is using it as his sole source of information.—A.C.C.

MEDICAL LABORATORY TECHNOLOGY
—Mathew J. Lynch et al. W. B. Saunders Company, Philadelphia, 1963. 735 pages. \$12.00.

With the growth of specialization in medical laboratory technology and the publications of many specialized texts there has been an increasing need in recent years for a moderate sized, one-volume book that could serve as a textbook and laboratory manual adequate to meet the investigative needs of general hospitals. The present book is introduced to fill this need. It covers all aspects of medical technology that are of importance to the average general hospital, presenting both the practical procedures and the basic theory underlying them. The balance is good, and the authors have done well to devote space to various subjects commensurate with their practical importance rather than letting their hobbies and personal interests dictate the degree of coverage.

Although the book is intended for medical technologists and students of this field it should also be of more than passing interest to physicians who have to interpret the results obtained by the technologists. Physicians who have laboratories in their offices will do well to examine this book as a possible addition to the office lab's library because the usefulness of

(Continued on page 59)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

JANUARY

- Jan. 20-23 *Cardiovascular Drug Therapy*—Hahnemann Medical College & Hospital, Philadelphia.
- Jan. 22-25 Neurological Society of America, Phoenix. Contact: C. H. Davis, Jr., M.D., Bowman Gray School of Medicine, Winston-Salem, N. C.

FEBRUARY

- Feb. 17-19 American College of Surgeons sectional meeting, Denver. Contact: S. J. Harbison, M.D., 55 E. Erie St., Chicago 11.
- Feb. 10-14 *Hypertension and Its Complications*—5-day course presented by the Medical College of Georgia and the American College of Physicians, Augusta, Ga. Write: Edward C. Rosenow, Jr., M.D., Exec. Dir., American College of Physicians, 4200 Pine St., Philadelphia.
- Feb. 29 Annual meeting—Kansas Obstetrical Society, Manhattan. Scientific program and business meeting in afternoon followed by social hour and buffet supper. A block of tickets has been obtained for the Kansas State-Oklahoma basketball game in the evening.

MARCH

- Mar. 1-6 American College of Allergists graduate instructional course and 20th annual congress, Miami Beach. Contact: John D. Gillaspie, M.D., 2141 14th St., Boulder, Colo.

POSTGRADUATE COURSES

- American College of Physicians postgraduate courses:
- Feb. 24-28 *Recent Advances in Metabolic Diseases*, New York City.

Mar. 2-5 *Neurology for the Internist*, Rochester, Minn.

Mar. 9-13 *The Physiologic Basis of Electrocardiography*, Salt Lake City

Registration forms and requests for information on the above courses should be directed to: Edward C. Rosenow, Jr., M.D., Exec. Dir., The American College of Physicians, 4200 Pine Street, Philadelphia 4.

University of Kansas School of Medicine postgraduate courses:

Jan. 27-29 *Medicine and the Law: The Evaluation of Disability*

Feb. 10-14 Medical-Surgical Clinical Symposia

Feb. 17-19 *Radiology and Radioactive Isotopes*

Feb. 24-25 *Vectorcardiography*

Mar. 9-11 *Pediatrics*

Mar. 16-19 *Surgery*

For information on the above courses, contact The Department of Postgraduate Medical Education, University of Kansas School of Medicine, Rainbow Boulevard at 39th Street, Kansas City, Kansas.

University of Colorado postgraduate courses:

Mar. 4-7 *Ocular Pathology*

Mar. 16-21 *Medical Technology*

Mar. 25-27 *Management of Trauma*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

Mar. 16-28 *Laryngology and Bronchoesophagology*, Dept. of Otolaryngology, Univ. of Illinois College of Medicine, Chicago.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in September 1963 and 1962
And cumulative totals for the first nine months of 1963 and 1962

Diseases	September			January to September Inclusive		
	1963	1962	5-Year Median 1958-1963	1963	1962	5-Year Median 1958-1963
Amebiasis	—	1	3	78	38	38
Aseptic meningitis	—	20	*	—	30	*
Brucellosis	—	—	—	6	13	39
Cancer	647	438	438	3,337	3,049	3,337
Diphtheria	—	—	—	—	—	—
Encephalitis, infectious	2	4	5	11	19	20
Gonorrhea	278	195	267	2,191	1,717	2,039
Hepatitis, infectious	23	27	23	195	379	218
Meningitis, meningococcal	—	2	—	11	12	9
Pertussis	11	3	3	64	37	39
Poliomyelitis	—	—	—	—	—	7
Rheumatic fever	—	—	—	—	8	3
Salmonellosis	33	5	5	198	40	40
Scarlet fever	2	9	8	284	415	415
Shigellosis	14	8	8	45	49	49
Streptococcal infections	110	67	67	1,075	981	1,023
Syphilis	72	68	122	803	884	949
Tinea Capitis	11	12	17	56	100	92
Tuberculosis	33	36	31	221	210	221
Tularemia	2	1	1	15	8	15
Typhoid fever	1	—	—	2	—	2

* Statistics on 5-Year Median not available.

RABIES IN ANIMALS

A positive diagnosis of rabies has been made in 19 skunks and three cats since January 1, 1963. Over 790 specimens representing 26 species of animals have been processed. Positive animals were from 16

Kansas counties—Barber, Barton (2), Graham, Harper, Kingman, Labette (2), McPherson, Morris, Ness (2), Osborne (2), Reno, Saline, Sedgwick, Sherman, Smith, and Thomas (2).

This is the largest number of positive cases of rabies in animals since 1957.

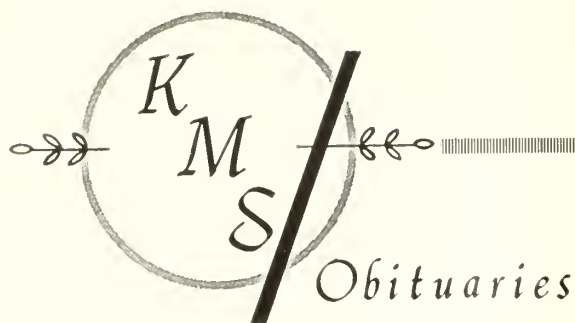
Book Reviews

(Continued from page 57)

most such installations could usually be increased a great deal by better use of existing facilities and personnel and by better understanding of both the "how" and the "why" of many rather basic procedures. The same can be said of laboratories in the small hospitals that abound in Kansas.

The book is printed in offset process on good quality, nongloss paper. The 46-page index is adequate. One wishes that the publishers had supplied this book—which will be used in laboratories more than in libraries—with a more resistant cover.—M.E.R.

By
Patronizing
Our
Advertisers
You Help Support
Your
Journal



JOHN W. DeMAND, M.D.

John W. DeMand, 77, Lincolnvillle, died on November 16, 1963, in Memorial Hospital at Arkansas City.

Dr. DeMand was born May 3, 1886, at Concordia, Missouri. He attended the University of Kansas and received his A.B. and M.D. degrees in 1912. He served his internship at St. Francis hospital in Wichita and then took post-doctoral work at the University of Berlin, Germany. In 1915 he moved to Lincolnvillle to begin his practice. He retired in 1954 after 39 years of medical service to the community.

Survivors include his wife, a son and a daughter.

JOHN L. KLEINHEKSEL, M.D.

John L. Kleinheksel, Wichita, died November 30, 1963, in Wichita. He was sixty-seven years old.

Dr. Kleinheksel was born on July 11, 1896, in Holland, Michigan. He came to Wichita from Rochester, Minnesota, in 1929. He was educated at Hope College and the University of Michigan Medical School, where he graduated in 1924. He began his practice in Wichita after completing residency at the Mayo Clinic. He was one of the founders of the Wichita Clinic.

His survivors include his wife, a son and a daughter.

GEORGE I. THACHER, M.D.

George I. Thacher, Waterville, died on November 20, 1963, in a Maryville hospital at the age of eighty-six.

A native of Hornell, New York, Dr. Thacher moved to a farm near Topeka in 1885. He was graduated from Lawrence high school and completed a course in a business school before entering medical training in 1898. He graduated from the old Kansas medical college in Topeka in 1902. During his more than 50 years of practice in Waterville, he served on the board of education and the city commission of that city. He was active in Masonic organizations and was a member of St. Mark's Lutheran church in Waterville.

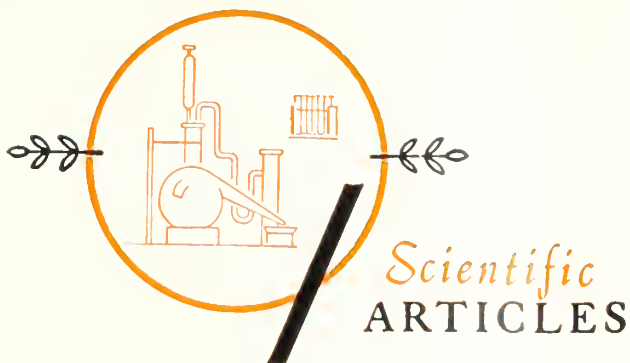
Dr. Thacher is survived by two sons and a daughter.

FREDERICK E. WRIGHTMAN, M.D.

Frederick E. Wrightman, 71, Sabetha, died December 5, 1963, at his home. He had practiced medicine in Sabetha for more than 45 years.

Born in Sedalia, Missouri, in 1892, Dr. Wrightman was graduated from the Washington University School of Medicine in 1917. A specialist in cardiology, Dr. Wrightman was a staff member of St. Anthony Murdock Memorial hospital in Sabetha. He was elected president of the Kansas Medical Society in 1960 and served until 1961. When his successor died while in office Dr. Wrightman was named to serve during the 1961-62 term.

Dr. Wrightman is survived by his wife, a son and a daughter.



Islet Cell Adenoma

Insulinomas and the Intravenous Sodium Tolbutamide Test: A Case Report

J. L. REESE, M.D., WILLARD J. KISER, M.D.
and **BENJAMIN M. MATASSARIN, M.D., Wichita**

IN 1924, JUST TWO YEARS AFTER Banting and Best's discovery of insulin, Harris suggested that overactivity of the islet tissue of the pancreas may possibly lead to hyperinsulinism. Wilder and associates (1927) reported the first case of hyperinsulinism associated with islet cell adenoma. Two years later, Graham reported the first successful surgical procedure carried out with resulting cure.

Since that time Whipple,¹⁰ Howard and associates⁶ Campbell,¹ Scholz and associates,⁹ and others have reported large series of insulinomas.

It was in 1944 while reporting his series of 149 islet cell tumors associated with hyperinsulinism that Whipple¹⁰ set forth his diagnostic criteria for hyperinsulinism, "Whipple's Triad." This triad of (a) blood sugar below 50 mg. per cent after a 12-hour fast or during an attack; (b) symptoms during fastings or after extreme exertion; and (c) symptoms relieved promptly by oral or intravenous administration of sugar, along with glucose tolerance tests, and epinephrine tolerance tests have remained the mainstay of diagnosis of hyperinsulinism in most recognized medical and surgical texts. However, as early as 1959, Fajans and Conn reported the use of intravenous sodium tolbutamide (Orinase®)* as an im-

portant adjunct in the diagnosis of hyperinsulinism. Since that time there have been only infrequent and sporadic reports, both pro and con, utilizing the intravenous sodium tolbutamide test.

In view of the relative rarity of insulinoma and

A case of insulinoma is presented utilizing the intravenous sodium tolbutamide test as a diagnostic aid. A brief history of insulinomas, features of the disease as illustrated by the case, and the invaluable use of sodium tolbutamide as a diagnostic tool is discussed.

the importance of its clinical recognition, since surgical cure must be obtained before irreversible brain damage has occurred, this documented report is presented.

Case Report

N. S., a 31-year-old, white, married, male farmer was referred to Saint Francis Hospital on March 19, 1962, complaining of intermittent episodes of diplopia and confusion. The history indicated that for the past six months he had noted periodic episodes

* Orinase, The Upjohn Company, Kalamazoo, Michigan.

of confusion, restlessness, irritability, sluggishness, giddiness, sweating, diplopia, and incoordination. He denied convulsions, but admitted to amnesia for parts of these episodes. The episodes primarily occurred just prior to lunch time, were aggravated by exercise, and were relieved by food and rest. Each episode appeared to take from one-half hour to one and a half hours for full development. In the past four months he had gained seven pounds in weight.

The referring physician had stated that once during an office visit the patient had experienced such an episode and a stat blood sugar revealed a level of 21 mg. per cent wherein administration of grape juice and sugar brought dramatic relief within 10 minutes.

His past history was essentially non-contributory. His mother had diabetes mellitus controlled by diet.

Admission physical examination revealed a well-developed, well-nourished, 180 pound, muscular, 31-year-old male in no acute distress with a blood pressure of 130/90; pulse, 80; respiration, 16; and temperature, 98 degrees Fahrenheit. Other than for the unusual, but not rare, finding of one green and one brown iris, the physical examination was essentially normal.

His admission fasting blood sugar was 83 mg. per cent. (Somogyi method; normal: 65-100 mg. per cent.) An EEG, skull, chest, and upper gastrointestinal x-ray were reported normal. On March 20, 1962, a 5-hour GTT (glucose tolerance test) was done, revealing a fasting blood sugar of 70 mg. per cent with a peak rise of 156 mg. per cent in one hour and a past pointing fall of 42, 50, and 38 mg. per cent in the third, fourth, and fifth hours respectively: a result compatible with functional hypoglycemia.

Since the GTT was compatible with functional hypoglycemia, on March 22, 1962, Whipple's recommended fast was begun and serial blood sugars were obtained every four hours. Activity by walking in the halls was encouraged and the patient was allowed tea and coffee without cream, sugar, or lemon. By the end of 36 hours no symptoms had appeared and the blood sugar had remained between 65 and 80 mg. per cent. During the 65th hour the patient noted diplopia. The nurses recorded slowly progressing giddiness and confusion. A stat blood sugar was drawn and 50 cc. of 50 per cent glucose was administered intravenously (I.V.). The patient was allowed to eat his supper two hours later. The stat blood sugar revealed a level of 192 mg. per cent (an unfortunate laboratory error); however, a blood sugar taken four hours after the I.V. glucose and two hours after his supper revealed a blood sugar of 65 mg. per cent suggesting that the stat blood sugar at the time of clinical hypoglycemia must have been quite low.

Because of the non-specific glucose tolerance result and the prolonged three day hospital fast before clin-

ical hypoglycemia could be obtained an I.V. sodium tolbutamide test was considered. On March 29, 1962, a fasting blood sugar of 53 mg. per cent was obtained and one gram of sodium tolbutamide was injected I.V. slowly over a five minute period. Blood sugar samples were then drawn at 15, 30, and 45 minute intervals and one, two, and three hours. The results were 20, 12, and 18 mg. per cent and 20, 30, and 24 mg. per cent respectively. These blood sugars were done with an auto-analyzer and reported all at once, otherwise the test would have been terminated earlier. Throughout the test no clinical symptoms of hypoglycemia were present. A fasting blood sugar the following morning was 83 mg. per cent.

A definitive diagnosis of insulinoma was made and on April 3, 1962, the patient was taken to surgery. Through an elongated transverse upper abdominal incision a homogeneous, purplish, soft, one centimeter encapsulated nodule was removed from the anterior surface of the tail of the pancreas (*Figures 1 and 2*).

The first postoperative day a fasting blood sugar was recorded at 153 mg. per cent. The fasting blood sugar remained elevated for 12 days postoperatively and then approached normal levels. On March 17, 1962, 13 days after surgery a repeat I.V. sodium tolbutamide test was done and recorded as normal. (A fasting blood sugar of 78 mg. per cent with 64, 56, 58, 63, 68, and 71 mg. per cent in 15, 30, and 45 minutes; one, two, and three hours respectively.)

The postoperative course was uneventful and the patient was discharged on the 19th postoperative day. Follow-up fasting blood sugars, glucose tolerance tests and a repeat sodium tolbutamide test have remained normal one year following the patient's surgery.

Discussion

Campbell and associates¹ have estimated that the incidence of insulinomas is one in 800 or 1,000 autopsies and that only 20 per cent of these tumors are clinically active. In an excellent review of 95 cases by Scholz and associates⁹ collected at the Mayo Clinic from 1927 through 1958 the primary age incidence was found to be between 30 and 60 years; with the sex ratio being essentially equal. Ten cases or 10.5 per cent were found to be malignant insulinomas with local metastasis coinciding well with the percentage of malignancies found by Howard and associates.⁶ However, 24 cases were classified as borderline grade I malignant islet cell tumors by the pathologist, but these acted like benign tumors supporting Marshall's concept that although mitotic figures are often seen in cells of islet cell adenomas these tumors are not necessarily malignant. In our case no malignant cells were found, however, occasional hyperchromatic nuclei were reported.



Figure 1. Photograph showing small insulinoma held by hemostat in the anterior wall of the tail of the pancreas.

It is interesting to note that our patient had experienced a seven pound weight gain in four months supporting the concept that these people have excellent appetites and often are quite obese, a reflex reaction to repel the periodic hypoglycemic attacks.

Also intriguing is the fact that our patient gave a family history of diabetes. Scholz⁹ noted 29 per cent of his insulinoma patients had a positive family history for diabetes, a figure which far exceeds the incidence in the general population.

The symptoms of hypoglycemia fall in two distinct spectrums or a combination of the two. The appearance of one pattern or the other, or of a combination of the two, is determined not only by the level of the blood sugar, but also by the rate at which it has fallen and the duration of the hypoglycemia. When the rate of fall in blood sugar is rapid, the predominant symptoms are those produced by compensatory epinephrine secretion from the adrenal gland. This represents an attempt to restore normal glucose blood levels by increasing hepatic glycogenolysis. These symptoms consist primarily of sweating, weakness, hunger, tachycardia, and inward trembling. Conversely, if the blood sugar falls slowly to low levels over a period of hours or days, the manifestations are primarily cerebral in type: headache, diplopia, confusion, coma and convulsions. If the decrease in blood sugar is both rapid and persistent, a combination of the two patterns of symptoms may be expected. In our patient a combination of patterns prevailed. However, as was noted earlier, during the three-hour I.V. sodium tolbutamide, test symptoms were not manifest until the final minutes in spite of blood sugar levels as low as 12 and 18 mg. per cent. This is indeed difficult to explain. Perhaps the youth of our patient with his assumed excellent cerebral blood supply, along with a compensatory hyperepinephrinemia which may not have been excessive enough to elicit immediate



Figure 2. Photograph showing complete removal of the homogeneous, soft, purplish, insulinoma measuring one cm. in diameter with surrounding normal pancreatic tissue.

adrenergic symptoms may partially explain this phenomenon.

The use of the intravenous sodium tolbutamide test was invaluable in our case since the history of hypoglycemic attacks occurring approximately three hours after meals (breakfast), the 65-hour fast with fasting blood sugars above 65 mg. per cent in the first 36 hours, persistent daily fasting blood sugars above 65 mg. per cent, and the misleading glucose tolerance test made the definite diagnosis of insulinoma precarious. But for the diagnostic aid of the tolbutamide test, this patient would necessarily have been submitted to a major surgical procedure without a definitive pre-operative diagnosis. Conn and Seltzer² in discussing the differential diagnosis of spontaneous hypoglycemia stated that in the 24-hour fasting state the functional hypoglycemic patient will reveal normal fasting sugars while the insulinoma patient will always reveal subnormal levels, at least below 40 mg. per cent (Somogyi method), and usually below 30 mg. per cent. It was also stated that in utilizing the glucose tolerance test, functional hypoglycemic patients will show an initial fasting blood sugar of normal levels while insulinoma patients will reveal an initial fasting blood sugar of subnormal levels. Such profound statements obviously are unreliable. As illustrated in our case, fasting blood sugars were within normal limits for the first 36 hours of the patient's 65-hour fast and daily fasting blood sugars repeatedly remained above 65 mg. per cent (normal: 65-100 mg. per cent).

The diagnostic ability of intravenous sodium tolbutamide to differentiate insulinomas from other forms of hypoglycemia not demonstrated by the glucose tolerance test and other tests was clearly exemplified by Fajans and Conn.³ Five tests in four patients with insulinoma giving one gram of I.V. sodium tolbutamide or 30 mg. kg. revealed an aver-

age maximum blood sugar fall to 19 mg. per cent (Somogyi method). One and a half to three hours later the average blood sugar level remained below 33 mg. per cent. In nine healthy subjects the average maximum blood sugar fall was to 45 mg. per cent and after one and a half to two hours the average blood sugar level had risen to 63 mg. per cent. Seven tests in five patients with adrenal insufficiency and hypoglycemia revealed an average maximum blood sugar fall to 37 mg. per cent, however, one and a half to two hours later all blood sugar levels were above 54 mg. per cent. In cirrhotic patients, the maximum fall was less marked while later decreases were in the same range as adrenal insufficiency. The most important finding of this study was the persistence of the tolbutamide induced hypoglycemia for three hours and not the maximum fall, although this is significant. The fall of blood sugar levels to 12 mg. per cent and 18 mg. per cent in 30 and 45 minutes respectively, with persistence of an average level of 24.5 mg. per cent for three hours in our patient compares favorably with Fajans' and Conn's criteria.

Johnston, Goetz and Zimmerman recently reported a case of a 63-year-old woman with a 12 year history of periodic syncope and mental confusion diagnosed as a possible insulinoma. Upon injecting 12.5 mg./kg. per cent of sodium tolbutamide intravenously the patient experienced within ten minutes a grand mal seizure abruptly halted with 100 gms. of I.V. glucose. Repeat hypoglycemic reactions were experienced at six hours and 14 hours despite a 5 per cent dextrose in water I.V. drip and oral nourishments. Because of the above, these authors have labeled I.V. sodium tolbutamide a dangerous test which should be used, if at all, only in the most doubtful of hypoglycemic cases. However, the unrecognized factor in this case is the fact that this patient's fasting blood sugar, while varying between 29 and 50 mg. per cent prior to the day of the tolbutamide test, was only 18 mg. per cent the morning the test was done. It is logical to assume that this test may be used with safety and confidence if the fasting blood sugar is determined

and the result obtained before proceeding with the test as was done in our case.

As was shown in Fajans' and Conn's series the average maximum fall in blood sugar in insulinoma patients after I.V. sodium tolbutamide was to 19 mg. per cent, a 63 mg. per cent average decrease from fasting levels. Therefore, any patient revealing a morning fasting blood sugar of less than 45 mg. per cent (Somogyi) should postpone the test until another day.

With the suggestive history of the hypoglycemic patient, it can be assumed that the intravenous sodium tolbutamide test should serve as a valuable adjunct in the diagnosis of such cases, even to the point of being the laboratory test of choice and thus possibly save the patient additional hospital days and expensive laboratory tests.

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PATRONIZE JOURNAL ADVERTIZERS

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Drug Allergy

Severe Allergic Reaction to Librium[®]: Case Report*

J. A. O'GRADY, M.D., and CHARLES POKORNY, M.D., *Halstead***

CHLORDIAZEPOXIDE HYDROCHLORIDE (Librium) has been suggested for use when fear, anxiety and tension play a significant role in the patient's symptom complex.^{1a-e} It has been recommended for use in asthma,^{2a-b} especially when the above findings play a major part. Side effects,^{3a-b} with the exception of ataxia and drowsiness, have been few and minor for the most part and a review of the literature fails to reveal serious allergic manifestations due to this drug. Minor skin eruptions have been reported as well as inconclusive evidence of agranulocytosis; however it should be noted that the Study Group on Blood Dyscrasias in its semi-annual tabulation warns that the drug may be a potential bone marrow depressant.^{3b}

Although it is well known that severe attacks of asthma may be precipitated by agitation or other emotional factors, we feel that the following case should be reported because of the reaction following a dose of chlordiazepoxide hydrochloride (Librium).

Case Report

A. T. W. was first seen in the Clinic on March 27, 1963, with a history of asthma of nine years' duration which was progressively becoming worse. Early in the course of the disease he had had intermittent attacks, but now he had asthma almost continually. Recent marital difficulties had tended to aggravate his condition. Previous treatment had consisted of saturated solution of potassium iodide, aminophylline, decadron (dexamethasone) and at times chlordiazepoxide hydrochloride 10 mg. four times daily. A productive cough of clear thick mucus disturbed his sleep a great deal. He smoked approximately 15 cigarettes daily. He attributed a recent weight loss of 20 pounds to his marital problems. During the previous seven years he had been hospitalized four times for treatment of acute attacks of asthma, the most recent being two weeks prior to his present admission. He had worked as a railroad fireman and engineer until symptoms forced him to quit one week

before being seen in the Clinic. There was no family history of allergic disease.

Physical examination revealed a well-nourished, well-developed, white male who was in moderate respiratory distress. His throat appeared inflamed and the tonsils were large and cryptic. The thyroid was slightly enlarged, particularly the right lobe. There was good expansion of the chest with no lag;

A case of severe allergic reaction to chlordiazepoxide hydrochloride is presented. Although the patient received other drugs, these have subsequently been administered without ill effect. It was deemed inadvisable to challenge the patient with Librium.

the diaphragms seemed to move equally. There was prolongation of expiration, and inspiratory and expiratory rhonchi were heard over both lung fields. No further positive findings were found.

Following his admission to the Halstead Hospital 5 per cent glucose in distilled water containing 0.5 Gm. of aminophylline was given intravenously and 80 units of ACTH Gel was injected intramuscularly. In addition he received 50 mg. of benadryl intramuscularly and this medication was to be repeated at 12 hour intervals. Subcutaneous adrenalin (1:1000) was to be used to control severe attacks should the need arise. A bronchodilator containing potassium iodide was prescribed four times daily.

Because it was decided to skin test this individual, all medications were discontinued on the morning of March 29. That afternoon at approximately 4:30 p.m. the patient developed an attack of asthma associated with apprehension. Five per cent glucose containing 0.5 Gm. aminophylline and 40 units of ACTH were not effective in controlling his symptoms, and he was given 30 mg. of chlordiazepoxide hydrochloride orally. Within 30 minutes he had become severely cyanotic and had developed profound coma. Examination at that time revealed a prolonged expiratory phase of respiration and both lung fields were filled with rhonchi. The pupils were dilated, there was

* Librium, Hoffman-La Roche Inc., Nutley, New Jersey.

** From the Department of Internal Medicine, The Hertzler Clinic, The Hertzler Research Foundation and The Halstead Hospital, Halstead, Kansas.

generalized relaxation, and he did not respond to stimuli of any sort. Treatment consisted of adrenalin 0.5 cc. intramuscularly, oxygen by nasal catheter, 0.5 Gm. aminophylline intravenously, and intermittent positive pressure breathing with 1:200 Isuprel by aerosol. It was necessary to control the intermittent positive pressure breathing machine manually because the patient's respiratory effort was insufficient to trip the machine. With this treatment the patient regained consciousness at 5:30 p.m. and was completely rational. Improvement continued and he was discharged from the hospital on April 4, 1963.

Discussion

In severe anxiety and tension the suggested dose^{2b, 4a} of chlordiazepoxide hydrochloride is 20 to 25 mg. three or four times daily. In acute anxiety in the adult it is not unusual to use 50 to 100 mg. of the drug^{2b, 5a, b} intravenously or intramuscularly. In acute asthma 25 mg.^{2a} four times daily has been used to relax the patient and to allay apprehension. While it may be a bit presumptuous to assume chlordiazepoxide hydrochloride precipitated the attack in the above patient, since other drugs were being used at the same time, the fact remains that the other drugs were continued after the attack, not only without deleterious effect, but with symptomatic improvement. It could be argued that the reaction was due to the ACTH⁶ which was being administered to control the attack of asthma. However, the patient continued to receive the intravenous ACTH during the episode and later showed negative intradermal and scratch skin tests to beef, pork and lamb. It would seem, therefore, that the reported incident was indeed a severe reaction to chlordiazepoxide hydrochloride.

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EXCESSIVE PREOCCUPATION WITH SAFETY?

There can be little doubt that the drug amendments of 1962 were passed to protect you and the public from harmful drugs. I am afraid, however, that the Congress and the public expect more than this or any law can deliver and, as I have said before, as long as we have drugs, as long as we have airplanes and even bicycles, we will have accidents and the development of flaws that only time and wide-spread use will uncover. There is a hazard in everything we do. It is right that we should take all reasonable steps to minimize these hazards; but, in the field of drugs, trying to look at it objectively, I think we are entering an era in which we are excessively preoccupied with safety. The pendulum has been given a hysterical push. It can seriously interfere with the more important objectives of providing the tools to alleviate the ills that still afflict mankind. If we fail in this endeavor, we can lose more than we gain; and, as Alfred North Whitehead so wisely said, "Panic of error is the death of progress."—Theodore G. Klumpp, M.D., in *Illinois Medical Journal*, October, 1963.

Battered Child Syndrome

Attorney General's Opinion Regarding the Reporting of Such Occurrences

WILLIAM M. FERGUSON,* *Topeka*

SEVERAL MONTHS AGO I became concerned about the alarmingly high incidence in Kansas of the "battered child syndrome." The Shawnee County Juvenile Judge had requested an Attorney General's opinion defining the privilege, if any, attaching to a doctor's examination of a child who appears to have been beaten, sexually molested or obviously neglected.

During the time this problem was under consideration the Attorney General's office was apprised of the deaths of two infants in this state as a result of beatings administered by parents. As a result, I was determined to write an opinion which would encourage doctors to report cases of the "battered child syndrome."

The basic objective was to bring these cases to light in order to protect the lives and well-being of children who are helpless to protect themselves. Other than parents, it is the medical doctor who is most likely to have knowledge of the beating or molestation of a child. The opinion, therefore, was directed primarily to doctors.

Doctors have a strong sense of their ethical obligations and, like anyone else, are reluctant to expose themselves to avoidable litigation. Many doctors had the concept that any information required by a doctor in connection with his examination and treatment of any patient is legally privileged and may not be revealed to anyone. The purpose of the opinion was to dispel this illusion.

The opinion, No. 63-80, dated September 24, 1963, is as follows:

Re: Juvenile courts. Reporting instances of child abuse by a physician to whom the child is brought for attendance. G.S. 1961 Supp., 38-816(b).

Request by: Honorable Malcolm G. Copeland, Judge, Juvenile Court, Topeka, Kansas.

Question I: Is the testimony of a physician who treats the injuries of an abused child admissible over the objection of the child's parent or other custodian accused of the mistreatment?

Answer: Yes. The parent or custodian may not claim the physician-patient privilege in behalf of the child.

Question II: In what manner, and to whom, should the physician report evidence that a child who was examined by him appears to have been mistreated?

Answer: To protect the child, report should be made directly to the Juvenile Court as provided by 38-816(b).

Question III: Is the physician subject to personal liability if a report of physical mistreatment is made to the Juvenile Court?

Answer: No, if the physician reports only his medical

Because of the increasingly high incidence of the "battered child syndrome" in Kansas, an official opinion regarding the reporting of such cases was requested from the Attorney General. The opinion is primarily directed to physicians of the state, since, other than the parents, they are the ones who would most likely have knowledge of child abuse.

opinion as to the condition of the child he has examined.

I

The physician-patient privilege is a creature of statute. Many states, although not all, have enacted statutes granting such privilege. In Kansas, under our present law, as set forth in G.S. 1949, 60-2305, a physician is incompetent to testify concerning any communications, or knowledge, gained as a result of his professional relationship with a patient. The new Code of Civil Procedure (Section 60-427) tends to restrict the privilege somewhat, and while the privilege continues under it, the basis is narrowed and is now said to be consistent to that applied in Workmen's Compensation cases. (Gard, Kansas Code of Civil Procedure, p. 411.)

The immediate issue is whether a parent, or guardian, of the abused child may claim the privilege on behalf of the child, to prevent the physician from revealing knowledge of possible child abuse gained in an examination of the child. Section 60-427(b) of the new Code makes it clear that a claim of privilege can be granted only if the judge finds that "(4) the claimant is the holder of the privilege or a person authorized to claim the privilege for him."

* Mr. Ferguson, who is Attorney General of the State of Kansas, spoke on this subject at the annual meeting of the Kansas Medical Society held in Salina on April 29, 1963.

Section 60-427(a) (3) defines the "holder of the privilege" as meaning "the patient if alive and not under guardianship, or the guardian of the person of an incompetent patient, or the personal representative of a deceased patient."

The question thus presented is whether the parents of a minor child, as his natural guardians, have the right to claim the privilege in behalf of such minor child.

It is our opinion that they have no such right. G.S. 1949, 59-1801, strictly limits the powers of a natural guardian to the custody of the minor and the appointment of a testamentary guardian for him. Natural guardians have no control over the minor's property not derived from them. A natural guardian is not "the guardian of the person of an incompetent patient," and therefore does not come within the purview of those persons authorized to claim the privilege.

Sometimes the claim of privilege comes from the physician-witness rather than from the patient. It has been repeatedly held in Kansas that the privilege belongs to the *patient* and exists for *his* protection, and not that of the physician. (See, *Flack v. Brewster*, 107 Kan. 63, 66; *State v. Cofer*, 187 Kan. 82, 89; *Pyramid Life Ins. Co. v. Gleason Hospital*, 188 Kan. 95, 98-99.) Any doubt on this question is answered by Section 60-427(b) (4) of the new Code of Civil Procedure, which requires that the claimant must be the holder of the privilege, who, according to Section 60-427(a) (3), is the patient or someone authorized to claim the privilege for him.

II

There are basically three kinds of child abuse with which the physician may come into contact. The first is that which has been defined as the "battered child syndrome." This syndrome is manifested by several well-defined symptoms [See, Connell, *The Devil's Battered Children—Journal of the Kansas Medical Society* (1963)], the most revealing of which are such things as differing ages of surprise skeletal damage and "accident prone" children. The physician will have no difficulty in recognizing the elements of the syndrome. The second case is that of sexual molestation which is, of course, not difficult to determine. Thirdly are the cases of gross neglect of the child which often manifests itself in cases of malnutrition which are easily detectable.

The primary concern must be for the safety and protection of the maltreated child who is unable to protect himself. The Juvenile Code [G.S. 1961 Supp., 38-816(b)] provides that:

"Whenever any reputable person shall furnish information to the juvenile court that a child appears to be . . . dependent and neglected . . . it shall be the duty of such court, or its duly appointed probation officer when requested by the judge thereof, to make a preliminary inquiry to determine whether the interest of the public or of such child requires that further action be taken."

G.S. 1961 Supp., 38-802(g) (2), defines a "dependent and neglected child" as ". . . a child less than sixteen (16) years of age who is abandoned or mistreated by his parent, step-parent, foster parent, guardian, or other lawful custodian." Under this section if a parent is mistreating his child, that child is "dependent and neglected" and comes within the purview of the Juvenile Code.

Whenever any physician, or any private citizen, has knowledge of, or suspects, a case of child abuse, he should report it to the juvenile judge immediately. This report may be made quite informally—a simple telephone call is sufficient. Upon receiving this report, the judge is required to immediately institute an investigation into the matter involved. If the investigation reveals that the child is being mistreated, G.S. 1961 Supp., 38-816(b), provides that a petition is to be filed and a hearing date set. Under G.S. 1961 Supp., 38-819, the juvenile court is given the power temporarily, pending the hearing, to deprive the parents of custody and place the child in a more suitable atmosphere. If, upon the hearing, the child is found to be dependent and neglected, the court, under G.S. 1961 Supp., 38-824, is empowered to permanently sever the parental rights of the offenders.

This procedure is well suited to deal with the problem at hand. It is speedy and allows immediate and effective action to be taken to protect the child from further abuse. It is informal. All that the physician, or any citizen, need do to set in motion the machinery provided is to advise the juvenile judge that he believes the child in question is being mistreated.

A physician, or any private citizen, has a duty to make known all cases of child abuse with which he may come into contact. This duty is owed to the child, who is unable to protect himself, to society, and in the case of the physician, to his profession.

The Principles of Medical Ethics of the American Medical Association, which have been adopted by the Kansas Medical Society, recognize the duty of the physician to the public and to the individual. Section 9 reads as follows:

"A physician may not reveal the confidences entrusted to him in the course of medical attendance, or the deficiencies he may observe in the character of patients, unless he is required to do so by law or unless it becomes necessary in order to protect the welfare of the individual or of the community."

When a physician has knowledge of a suspected case of child abuse, it is mandatory that he report such case, in the manner suggested above, in order to protect the welfare of the child. To conceal such information would appear to be a clear violation of the Principles of Medical Ethics quoted above.

The duty of the physician as a member of the community is also well stated in Section 10 of the Principles of Medical Ethics of the American Medical Association.

Child abuse is made a crime in Kansas by virtue of G.S. 1949, 38-704. Therefore, a physician, or any cit-

izen, who has evidence of child abuse and remains silent, is not only exposing the child to further danger but also may be concealing a crime. The Supreme Court of Kansas has put its stamp of approval on this principle:

"It is true, as the defendant contends, that it is the duty of everyone to assist in the detection of crime, and to that end he should communicate to the proper office what he knows regarding the commission of crime." [*Gregory v. Nelson*, 103 Kan. 192, 196 (1918).]

III

This opinion has said that the physician has a duty to report suspected cases of child abuse. If he carries out this duty, is he in danger of a suit for defamation should he be in error?

It is our opinion that he is not. In conveying information of child abuse to the juvenile judge, he reports that in his medical opinion a particular child is being mistreated. He accuses no one of a crime. Under such circumstances, he will not be in danger of a suit for defamation.

It is also well settled that even slanderous statements are privileged if made in good faith in prosecuting a suspected crime. [See, *Mueller v. Radebaugh*, 79 Kan. 306 (1918).] This, of course, means that even if the accusation is false, there is no liability for libel or slander. [See, 33 Am. Jur., Libel and Slander §126, 19 R.S. of Torts §597 (1941).]

The release of this opinion was almost immediately fruitful. Within a few days after its publication a news story appeared in the *Topeka State Journal*, headlined "Child Abuse Incident Reported." The story related:

"The Kansas attorney general's opinion physicians should report cases of suspected child beatings has resulted in one such report regarding three children who have suffered numerous injuries, Malcolm Copeland, judge of Shawnee County Juvenile Court, said Monday."

* * *

"The judge said the doctor who reported the recent case is a Forbes Air Force Base physician.

"The mother of the children, ages 1, 2 and 3, has admitted inflicting injuries on the children, he said.

"One of the children is in the Forbes Hospital with a fractured skull, he said. This child previously suffered a broken arm which healed without medical attention, he noted.

"The other children have suffered broken bones and injuries also, he said, and the injuries have always been ascribed to accidents."

As Attorney General, I strongly urge each medical doctor to report to the juvenile court, without fail, evidence which in his medical opinion indicates the battery, sexual molestation or neglect of any child seen by him.

THE KANSAS MEDICAL SOCIETY

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Implementation in Kansas

MARVIN E. LARSON,* *Topeka*

Background

PRIOR TO OCTOBER, 1960, there was no federal participation as such in payments made to medical vendors (to physicians, hospitals, pharmacists, nursing homes, etc.) for services to persons who were receiving public assistance to provide for their subsistence needs. Also, there was no federal participation in payments made to medical vendors for services rendered to persons who, although they had sufficient income to meet their subsistence needs for food, clothing and shelter, did not have sufficient income or resources to make payments for medical services.

Nevertheless, even without federal participation, Kansas, through its county boards of social welfare, provided a considerable amount of medical service; this with 50 per cent county money and 50 per cent state money. Each of the 105 counties dealt individually with the problem of medical services for needy people as best it could, and as a result there has developed a great variety of medical programs within the state. The kind of a county medical program has depended upon the attitude and originality of the local board of social welfare as well as upon the attitude and originality of the local medical vendor organizations. These factors have resulted in some very excellent county programs and they have also resulted in some very poor programs marked by a complete breakdown in relations between the county boards of social welfare and the local vendors of medical services. The variety of local medical programs thus developed included the employment of physicians by the county welfare department, the operation of hospitals as well as outpatient clinics by welfare departments, the evolution of prepaid insurance plans, full payment of billed charges for all medical services provided with no controls and partial or percentage payments for medical services, some with controls and some without controls.

This "hodgepodge" of county medical programs included state matching of county expenditures for medical services, and therefore there was no control at the state level on the utilization of state funds for medical services to needy persons in Kansas. Not only was there no control under this system, there was not

even a way of estimating or predicting the utilization of state funds for the purpose. As medical costs increased, particularly as new and more costly hospital services were developed and new and more costly pharmaceuticals were invented, there emerged a concern in state government for some control of or some means of predicting the cost of medical services in the welfare program and in 1954 a legislative council report suggested that a state monetary limit be established within which to provide medical care in the

This article is a reply from the State Department of Social Welfare of Kansas to a request made by the Kansas Medical Society for an explanation of rules and regulations covering the uniform health program for the indigent and the MAA program.

public assistance programs. This certainly was a very arbitrary and restrictive suggestion, since it did not take into account the medical needs of the people involved, nor did it take into account the costs of meeting the medical needs of the people involved. It did, however, meet the requirements of sound fiscal procedure for the state, which involves the predictability of the utilization of state funds and a method of control of the utilization of state funds. In any case, effective January 1, 1958, because of the foregoing stated considerations and because of the limitations of state funds for the purpose, the State Board of Social Welfare limited state fund participation in payments to medical vendors for services to public assistance recipients on a formulary basis closely equivalent to the expenditure for the purpose of \$6.50 per eligible person per month. This policy, which remains in effect except that the \$6.50 per eligible person per month has been modified to permit the counties to gain the federal participation in old age assistance provided in the Kerr-Mills Bill, does not limit the program expenditures for the purpose but merely limits the state fund participation in such expenditures. Therefore, counties with sufficient tax resources have been able to supplement from county funds alone the amounts of medical care assistance costs in which the state would partici-

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pate. The result has been widely varying rates of expenditure and varying quality and quantity of medical care which welfare eligibles have been able to procure from county to county.

Fourteen counties are levying the statutory maximum for welfare purposes. In these 14 counties the \$6.50 per person per month as modified becomes the maximum these counties can pay. Other counties have held to the \$6.50 amount as modified despite the availability of county funds for medical purposes. Some counties have both the county funds and the desire to pay in full for medical services to assistance eligibles. The result is then a variety of local medical plans and a great deal of dissension between county departments of social welfare and local medical vendors and a great many pressures for state action to establish a uniform plan at the state level. These pressures resulted in the introduction at the 1959 session of the legislature of House Bill No. 472 providing for a monetary limitation at state level and providing for payment by the state for some segments of medical care. This bill did not pass and the pressures have continued for some sort of state action.

The Old Age Assistance Part of Kerr-Mills

It has been mentioned that prior to 1960 there was no federal participation in payments to medical vendors for services provided to public assistance eligibles. In the category of old age assistance, effective October 1, 1960, under the Kerr-Mills Bill, federal participation in medical vendor payments for this group became available. Initially the federal participation in Kansas was 60.78 per cent of the average vendor payments up to a maximum of \$12.00 a month per person on old age assistance. This provided to Kansas an additional \$7.29 per case per month in old age assistance for medical vendor payments in this category. Effective July 1, 1961, the percentage of federal participation dropped from 60.78 per cent to 57.52 per cent, but the maximum increased to \$15.00 per case per month, resulting in an average federal participation of \$8.63 per case per month. Currently, and since July 1, 1962, the federal participation has been 56.63 per cent, resulting in \$8.49 per case per month.

Governor Anderson took cognizance of the new federal money for payments to medical vendors for services to persons on old age assistance by announcing in his message to the 1961 session of the Kansas Legislature that he wanted the newly available federal funds passed on to the medical vendors, but that he did not want it passed on in the inequitable manner inherent in the many different county programs. He announced that he would appoint a committee of representatives from the Kansas Medical Society, the Kansas Hospital Association, the Kansas Pharma-

ceutical Association, the Kansas County Commissioners Association and the Kansas County Directors Association, for the purpose of devising an equitable program for the payment of services to public assistance eligibles that would result in a fair distribution of the new federal funds, and announced further, that he would hold up the distribution of federal funds until such time as an equitable program for the distribution of these funds was worked out which was acceptable to the medical vendors of the state.

The governor's committee on medical care in the public assistance program was appointed in February, 1961. One of the first actions of the committee was to recommend legislation implementing the Kerr-Mills Bill in Kansas. Meanwhile, the advisory committee was considering the problem of providing medical care for public assistance recipients where available funds were limited. The committee rejected a proposal that the scope of care be limited and indicated that the suppliers of medical services would rather the plan provided for necessary medical services at rates as reasonable as possible but subject to proration if the funds were inadequate to meet claims. The committee also recommended that the first program developed be in the old age assistance program where funds then available were more nearly adequate than in the other assistance categories.

Through the use of Blue Cross statistical personnel and the actuarial firm of Coates, Herfurth and England, the committee determined that the cost of the proposed plan in 1961 for old age assistance would be over \$21.00 per person per month.

The combination of federal, state and county money then available for medical care was about \$18.00 per month. A subcommittee worked on the suggested fees under the proposed old age assistance program, made some reductions in each area: that is, hospitals, physicians and pharmacies; and succeeded in reducing anticipated expenditures for each person receiving old age assistance to approximately \$18.00 per month. The plan for a uniform medical program in old age assistance was not adopted in Kansas at that time because of a lack of general knowledge on the part of the legislature of the difficulties existing in the welfare program.

A Program of Medical Care in All of the Traditional Categories of Public Assistance

Two things happened in 1962 that affected the state board's planning in relation to medical care in the public assistance program. One was that the public welfare amendments of 1962 made a considerably greater amount of federal money available and the other was the executive commitment to implementation in Kansas of the medical assistance for the aged program under the Kerr-Mills Bill.

The new federal money in the 1962 amendments was first an additional \$4.20 per case per month of federal participation in the money payment or grant to recipients of assistance in the adult categories of old age assistance, aid to the blind and aid to the disabled. The other was that if these categories were combined by the state, the federal government would participate to the same extent in aid to the blind and aid to the disabled as in old age assistance. This caused the state board to consider the projection of the program recommended by the governor's committee for old age assistance to all of the public assistance programs. This was the recommendation of the governor's committee at the November, 1962, meeting.

This medical program in the traditional categories of assistance, which is planned for initiation April 1, 1964, will operate in the following manner:

First, there would be a detailed statement of the medical services for which the program would be responsible and the establishment of a fee schedule for these services, this part to be negotiated with the various vendor groups.

Secondly, there would be established a central fund to be maintained in the State Department of Social Welfare, which would handle the billing, auditing and paying of claims for medical services. This fund would be maintained by charging each of the counties an actuarially determined amount per capita per month in each of the categories of assistance.

The scope of services to be provided in this program and the proposed fee schedule are the same as they are currently budgeted for and established in the medical assistance for the aged program which was initiated January 1, 1964.

Kansas' Kerr-Mills Program

In the Governor's message to the legislature in 1963, he recommended that the Kerr-Mills Bill be implemented in Kansas by providing for medical assistance for the aged. The proposal to include medical assistance for the aged was budgeted upon the same scope of medical services and upon the same rates as the proposed plan for old age assistance. The proposed program is broad in scope covering nearly all physician and hospital services, prescribed pharmaceuticals and skilled nursing home care for those individuals who require skilled nursing care living outside their own homes.

The Kansas program compares well with other states in terms of the scope of care provided for eligible applicants. The income levels used in eligibility determination compare favorably with states which have a similar scope of medical coverage.

It was felt that the eligibility requirement should, at least in the beginning, be conservative until it is

learned how great the demand for services will be. On the other hand, the scope of care is nearly as broad as the three states commended in an early report of the Special Committee on Aging of the United States Senate issued June 16, 1962. In this report Hawaii, North Dakota and Massachusetts were commended for their programs of comprehensive scope.

The Kansas eligibility requirements are almost identical to those of North Dakota. It is recognized that some persons with higher income will have medical needs which will require considerable financial sacrifice on their part before the agency can provide help under this program. However, with the funds budgeted and until experience is gained in the program, it was felt that we should establish the present level of exemptions.

The deductible feature will permit a person who has a higher income to benefit from the program in the event of a catastrophic illness. For example, if a single man over 65 has an annual income of \$4,000 and he has paid or is obligated to pay \$2,850 or more for medical care during the past 12 months, then he may be considered eligible from the standpoint of income, because he has obligated \$50.00 plus the amount of his income above the exemption of \$1,200.

In another example, if a man, living with his wife, has an annual income of \$4,000 and has obligated or paid \$2,250 or more for medical purposes (including health insurance premiums) during the past 12 months, he is eligible from the standpoint of income.

An abbreviated statement of the eligibility and scope of services available is listed below:

ELIGIBILITY

Age—65 or over.

Residence—Must reside in Kansas, or be absent only temporarily.

Real Property—Maximum value established by county board, but with top limit of \$10,000.

Allowable Reserves—(Single persons \$1,000 if at least \$500 is in cash surrender value of life insurance.)

Married couple \$1,750 if \$750 is in cash surrender value of life insurance.

Insurance must name spouse as beneficiary; if no spouse, the estate.

Automobile—Market value of \$1,000 (National Auto Dealers Association list).

Livestock and Tools—Equity of \$1,500 if used to produce income.

Income—Single—Exempt \$1,200 annually.

Married—Exempt \$1,800 annually.

Single and in nursing home—\$120 annually.

Married and both in nursing home—\$240 annually.

Married and one in nursing home—\$1,320 annually.

Deductible—The applicant must have paid or obligated himself to pay \$50.00 in the past 12 months for medical goods or services. Health insurance premiums may be considered within the deductible amount. The deductible amount is increased by the amount of income or resources in excess of the exempted amounts.

SERVICES

Physicians—

Necessary—Home, office, hospital or nursing home calls, consultation, surgery, laboratory services, x-rays and physical therapy.

Limited to 30 home or office calls per year except upon approval by a medical services review committee. The patient is responsible for payment of the first two home or office calls per calendar quarter.

Hospitals—

Necessary hospitalization (ward or semi-private rooms).

Not to exceed 14 days per single admission unless requested by attending physician, but with 30-day limit per year. Exception only with approval of medical services review committee.

Pharmaceuticals—

All pharmaceuticals prescribed by a physician and dispensed by a licensed pharmacist. Excluded are patent medicines and pharmaceuticals which may be purchased without a prescription.

Nursing Home Care—

For those patients whose physician states they need skilled nursing care. Care in a skilled nursing home or in an establishment with a registered nurse or a licensed practical nurse on the staff.

Eligibility will be determined by the county welfare department. Eligibility may be effective as early as ten days prior to the application.

The county pays the nursing home direct.

The pharmacist, physician and hospital bill the State Department of Social Welfare through the county department.

The aged individual in need of medical care but with funds to meet his basic subsistence needs may apply to the county welfare department for medical assistance for the aged. If he is found to be eligible, he is issued an identification card. He is responsible, except in cases of accident, for the first two home or office calls per calendar quarter. He is eligible for the scope of medical care listed above and for skilled nursing home care. The physician, hospital or pharmacist is to submit his claim to the county welfare department as promptly as possible. It is checked there for eligibility of the patient and to determine whether the claim form is complete. The

forms are then forwarded to the State Department of Social Welfare for an audit, pricing and payment of the claims.

Patients in skilled nursing homes will have their care paid at a rate not to exceed that paid by the county for other patients requiring skilled nursing home care.

Fees for physicians, hospitals and pharmacists in MAA have been established by the state board at the same rate as the fees recommended by the Governor's Advisory Committee for old age assistance. The fees for home and office calls, for example, are at the going rate in the community, not to exceed \$4.00 for office and \$6.00 for home calls. Rates for surgery are at \$1.80 per relative value point on the Relative Value Study adopted in February, 1961.

Hospitals are to be paid on the basis of costs or charges, whichever is less. This is because if the welfare patient's bill is not paid, hospitals must recover this deficit from other hospital patients.

Payment for prescribed drugs to licensed pharmacists is to be on the basis of cost plus 50 per cent plus 50 cents if the wholesale cost is less than \$5.00, and cost plus 50 per cent if the cost is more than \$5.00. There is a minimum of \$1.25 per prescription and the pharmacists have agreed to deliver prescriptions when necessary.

In order to stay within funds available, pharmaceutical claims will be prorated if their claims exceed the anticipated expenditures for drugs.

If the combined hospital and physician claims exceed the anticipated claims of physicians and hospitals, then the board will prorate, although the physician would be prorated at a somewhat higher rate than the hospital. The formula for this proration was suggested in connection with the old age assistance program proposed by the Governor's Advisory Committee.

We believe that our old age assistance caseload will be somewhat reduced when those patients who require skilled nursing care outside their own home are receiving care in a skilled nursing home. It is difficult to estimate the balance of new patients, although we believe there will be roughly 1,000 to 1,300 ill persons in a given month.

The Kerr-Mills program is instituted in the belief that it will help provide needed medical care for people over age 65 who have limited incomes. As we gain knowledge and experience in the operation of this program, it is believed that we can make indicated modifications by working together to clarify questions, modify policy and improve practices within the program for the benefit of the aged people in Kansas and to our mutual satisfaction.



Chronic Ulcerative Colitis Complicated by Carcinoma of the Rectum

Edited by JAMES M. FLYNN, M.D.,* *Kansas City, Kansas*

Medical Student: This is the first KUMC admission for this 33-year-old machine shop inspector. The patient consulted his physician one month prior to admission here with the complaint of loose, bloody, mucoid stools of one day's duration. No specific therapy was administered. He had a recurrence of the diarrhea on two occasions during the next two weeks and was admitted to the local hospital. Three units of blood were administered and x-ray studies of the colon were carried out. He was discharged after one week; however, the day following discharge he had a fourth episode of bloody diarrhea. He returned to his physician who performed a sigmoidoscopic examination and told him there was a tumor within the rectum and referred him here.

The patient stated that he had the onset of episodic mucoid and bloody diarrhea at age nine at which time a diagnosis of ulcerative colitis was made at a well known clinic. The colitis has persisted intermittently for the past 24 years. During the last several years, and particularly the last four years, his stools were soft to semi-liquid and frequently contained mucus and blood. During the severe exacerbations of his disease he would frequently have 10 to 18 stools per day. He states that he has not been given specific therapy for this disease but has taken tranquilizers recently. There apparently has been no attempt to treat the disease with steroids in the past. He is married and has three children and describes himself as impatient, irritable and a "perfectionist." Past medical history includes an appendectomy in 1940 and excision of a perianal fistula two years ago.

Dr. Stanley R. Friesen (moderator): Do we have other history concerning the early course of his disease?

Medical Student: No sir.

Dr. Friesen: Has there been any change in the course of his disease in recent years?

Medical Student: The episodes of diarrhea have been more frequent and prolonged during the last four years.

Dr. Friesen: Has there been any history of arthritis or iridocyclitis?

Medical Student: The patient complains of vague soreness in his right hip and leg for the past two months but gives no history consistent with significant arthritis. He denies having had any disorder of the eyes.

Dr. Friesen: Is there any history of thrombophlebitis or embolism?

Medical Student: No sir.

Dr. Friesen: What are the physical findings?

Medical Student: On physical examination the patient appeared fairly well developed and fairly well nourished and was in no acute distress. The skin, buccal mucosa and conjunctivae were pale. Examination of the head, eyes, ears, nose, mouth and throat revealed no other abnormality. The heart and lungs were normal. Examination of the abdomen revealed no palpable enlargement of the solid organs and no tenderness was elicited. The perianal skin was slightly excoriated and contained healed fibrous scars. On digital examination marked rectal tenderness was noted and there was a palpable mass at approximately 5 cm. on the right lateral wall.

Dr. Friesen: Was the liver enlarged?

* Resident, Department of Pathology, University of Kansas Medical Center, Kansas City, Kansas.

Medical Student: The liver was not palpable on physical examination.

Dr. Friesen: Were further diagnostic studies done?

Medical Student: Yes, the hemoglobin was 10 gm./100 ml. and the hematocrit 36 per cent; the total serum protein was 7.3 gm. per cent with albumin 3.8 gm. per cent and globulin 3.5 gm. per cent. The blood urea nitrogen, fasting blood sugar and liver function studies were normal.

Dr. Friesen: It is unusual for patients who have ulcerative colitis to appear well nourished as this man apparently did. The serum proteins are normal. Anemia in this disease can result from nutritional factors or blood loss. What was your clinical diagnosis?

Medical Student: Chronic ulcerative colitis with possible malignant change.

Dr. Friesen: How did you determine whether or not carcinoma was present?

Medical Student: A proctosigmoidoscopic examination was done.

Dr. Friesen: What did that show?

Medical Student: The sigmoidoscope could not be advanced beyond 12 cm. and at that point the lumen of the bowel was reduced to approximately 1-2 cm. The rectal mucosa distal to this point was thickened, granular and ulcerated and contained multiple small hemorrhagic areas. At approximately 5 cm. on the posterior and right lateral wall there was a heaped up area showing hypertrophic rugae and pseudopolypoid growth. Several biopsies were taken from this area and at approximately 10 cm. there was a large single polyp, which was also biopsied. The pathologist's report was "moderately well differentiated adenocarcinoma of the rectum involving mucosa and submucosa."

Dr. Friesen: Dr. Tice, may we see the barium enema please?

Dr. Galen Tice (Radiologist): The picture here is quite typical of chronic ulcerative colitis as the process becomes older and narrows down the caliber of the bowel. The haustra are lost. Many filling defects are seen throughout the bowel. The mucosa appears to have a cobble stone pattern. There is a very definite stricture in the mid-sigmoid area which could be neoplastic although it does not have the characteristics of an annular carcinoma. The main finding is, of course, the chronic far advanced ulcerative colitis with pseudopolypoid change throughout the left colon (*Figure 1*).

Dr. Friesen: Are there any other studies we should have on this patient before we find out about his treatment?

Medical Student: Stool cultures were negative for significant bacterial pathogens and amoebae.



Figure 1. The air contrast study shows loss of the haustral markings, a reduction of the caliber of the bowel with a narrowed segment in the mid-sigmoid and a mottled mucosal pattern typical of chronic ulcerative colitis.

Dr. Friesen: How was he prepared for operation?

Medical Student: He was given two units of whole blood. A blood volume study was done. Phthalylsulfathiazole-neomycin (Neothalidine®)* was started two days before operation and a gentle cleansing enema with neomycin was given on the evening prior to operation.

Dr. Friesen: What were the operative findings?

Medical Student: At operation the large bowel was markedly fore-shortened and the haustral markings were absent. The caliber of the colon was reduced. The serosal surface was hyperemic but no adhesions to adjacent structures were noted. A few enlarged nodes were seen within the mesentery of the ileum and about the cecum. The liver was free from tumor in so far as it could be determined by visual examination and palpation. A total colectomy and abdominal perineal resection of the rectum with ileostomy were done without complication. A few firm lymph nodes were seen within the perirectal fat. A few fibrous adhesions were present about the cecum which were probably related to the appendectomy several years ago.

* Neothalidine®, Merck Sharp & Dohme, Div. of Merck & Company, Inc., West Point, Pennsylvania.

Dr. Friesen: If this bowel were to perforate, would it be more likely for it to produce a fistula with a neighboring hollow viscus or would it more likely result in free perforation?

Medical Student: A free perforation would be more likely.

Dr. Friesen: That is right and this is quite different than in diverticulitis which forms adhesions around it and a perforation may result in a localized abscess or a fistula with the small bowel or bladder. A perforation in ulcerative colitis usually results in a free perforation because one usually does not have adhesions to neighboring structures. This is a disease primarily of the mucosa and, therefore, there are not many adhesions about the serosal surface of the colon.

Dr. Friesen: Was the ileum involved with the process?

Medical Student: No gross involvement was seen.

Dr. Friesen: Dr. Boley, would you tell us about the examination of the specimen in surgical pathology, please?

Dr. James O. Boley (surgical pathologist): The gross specimen consisted of a 10 cm. segment of ileum, the entire colon, rectum and anus. The external appearance of the gross specimen was as described at operation. The serosal surface of the colon was hyperemic which was due in part to the trauma associated with the operation. No adhesions were seen. The appendix was missing. The opened colon showed a raised, superficially ulcerated, sessile mass within the rectum approximately 5 cm. from the anal mucocutaneous junction measuring 2.5 cm. in the long axis and extending nearly the entire circumference of the rectum. On the cut surface through the mass one saw pale gray-white tissue which produced a thickening of the mucosa and frequently dipped into the muscularis. This same tissue extended in the long axis to very near the mucocutaneous junction of the anus. Some of the small lymph nodes adjacent to the wall of the rectum contained similar tissue. This was confirmed on microscopic examination and metastatic carcinoma was present in seven of thirty regional lymph nodes from this area. Seventy nodes examined from the remaining mesentery were free from tumor. The mucosa of the remaining rectum and sigmoid colon showed extensive ulceration. Many pseudopolyps were present here and throughout the remaining colon. These pseudopolyps are irregular islands of edematous, inflamed and redundant mucosa remaining within an area of extensive ulceration. They may project into the lumen and produce the filling defects which Dr. Tice pointed out. True polyps were also present. The stricture at 12 cm. is not typical of chronic ulcerative colitis. The ulcers within the remaining colon were frequently linear with irregular edges and when one examined the serosal surface of

the opposite side of the bowel one saw that the ulcers were usually opposite the tinea coli.

Microscopic examination of the rectal mass reveals a well differentiated adenocarcinoma extending through the muscularis mucosa into the submucosa and muscularis. The adjacent lymph nodes are nearly replaced by the tumor. The mucosa adjacent to the tumor is quite atypical and sections taken from many areas of the bowel remote from the tumor are similar. One section through a pseudopolyp shows mucosa lying directly on the muscularis propria and the muscularis mucosa and submucosa are missing. One might question whether this is another primary site of carcinoma. I do not believe it is since no invasion is present. I do feel this is an area of previous ulceration which has healed and the regenerated mucosa now lies directly on the muscularis propria. There are atypical cells and glands here but this is true of sections from throughout the bowel. Other pseudopolyps show considerable inflammatory reaction and may contain typical crypt abscesses filled with polyps. These are frequently seen prior to an acute exacerbation of the disease and perhaps the stress of impending surgery was enough to precipitate this change in this individual. Sections through the constricted area in the sigmoid show only chronic inflammation and fibrosis. No tumor is seen here.

This is not a particularly unusual case of ulcerative colitis. Some years ago Dr. Orr was asked at this conference about the incidence of carcinoma in chronic ulcerative colitis and he could recall only three in approximately 100 cases that he had seen. At that time most series were quoting 3 to 4 per cent as the incidence of carcinoma. These figures have constantly been revised upward and in 1958 Hickey and Tidrick reported their experience with 326 patients seen at the University of Iowa which emphasized several important aspects of this disease. They had a total of 19 cases of adenocarcinoma of the colon and rectum in the total number which makes an incidence of approximately 6 per cent. When they further analyzed their cases into those that had the onset of their disease in childhood or teens, of which they had 108 cases, they found the incidence of carcinoma was 15 per cent. Further, those whose disease started in childhood and was present for ten years or longer had an incidence of 29 per cent. In today's case we have an individual whose ulcerative colitis started in childhood at approximately age nine and who is now 33 years old. In ten years he would have had approximately a 30 per cent chance of having carcinoma. I feel that if we were to study a group for longer than ten years we would find the incidence increasing and I think this individual demonstrates this point.

Dr. Friesen: Why do you think, Dr. Boley, this type of lesion is prone to malignant change?

Dr. Boley: This is a disease which waxes and wanes with proliferation and repair over a long period of time. This may tend, particularly in younger individuals, to predispose to or multiply the chances of malignant change.

Dr. Friesen: Dr. Tice, there is little difficulty in making the diagnosis radiologically is there?

Dr. Tice: This case is characteristic and offers no difficulties in the diagnosis of the primary disease process. The stricture does not present the classic sharp transition between a carcinoma and adjacent normal mucosa we sometimes refer to as the "apple core deformity." In this instance a stricture-like filling defect was described and it was considered to be a segment of narrowing due to ulcerative colitis. We could not justify a diagnosis of carcinoma on the basis of the x-ray study. The final diagnosis must be made by the pathologist as in this instance.

Dr. Friesen: I think another interesting aspect of this disease is the early experience of Dr. Major in the medical management of chronic ulcerative colitis. You will find that his reports on the medical treatment of ulcerative colitis show as good or better results as many others on the medical treatment of ulcerative colitis. I was a student here at the time. His treatment consisted of the daily rectal installation of one ounce of nitrobenzoesulphapyridine (NBSP or "nobody shall perish," as we medical students called it). Every day this treatment was administered by one of his house staff or perhaps by one of the nurses and many of the patients got better. Since that time it has been difficult for me to understand why these patients

got better. I am now convinced the reason these people got better or had remissions was the psychological value of the treatment. Many patients with chronic ulcerative colitis had a psychological overlay and, indeed, some physicians have tried to make this the etiology of the disease. However, just as many physicians do not accept this concept. Many patients do have a psychological problem and, of course, they know their problem is in their rectum. They have diarrhea, and, therefore, any treatment, psychological or otherwise, directed toward their rectum is going to have some psychological value. Those of us who are surgeons feel that surgical treatment is indicated particularly in two types of cases. One is the acute fulminating colitis where the patient becomes seriously ill very rapidly and may die within a few days. This patient deserves an emergency colectomy. Fortunately, this type is rare. The second type of case is one which is more common and is the one who has had his disease a considerable length of time and does not respond adequately to medical management. Unfortunately, some physicians and some patients continue the medical treatment too long and this is the situation in the patient discussed today. I would think that five years of continuing disease would be the maximum length of time for medical treatment since we know the incidence of carcinoma at ten years is definitely increased and that every year after that it gets higher.

Reference

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PREPARATION OF MANUSCRIPTS FOR THE JOURNAL

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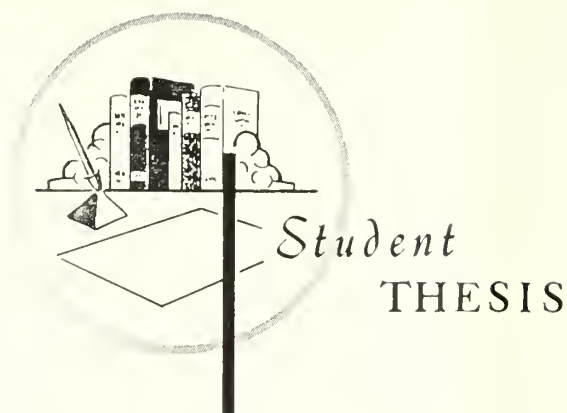
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Society members throughout the state are encouraged to write up their interesting cases and submit them for publication. The editorial staff welcomes the opportunity of helping you prepare your article for the printer.



Hypophysectomy in the Treatment of Diabetic Retinopathy

ROBERT W. B. CHOW, M.D.,* *San Francisco*

THE IMPROVED CONTROL of carbohydrate utilization and ketosis since the discovery of insulin permits the diabetic patient to live long enough to develop vascular disease. The problems of the late vascular complication of diabetes remain far from resolved. Among these problems, there is nothing more distressing than the handicap of diabetic retinopathy, which constitutes a major threat to young diabetics during their most productive years.

Incidence

Various studies have reported the incidence of retinopathy in the diabetic population in the past two decades, varying from as low as 4 per cent to as high as 50 per cent. Recent studies by Whittington and Lawrence show an incidence of diabetic retinopathy of about 75 per cent in patients with diabetes of 15 to 25 years' duration. Their studies are compatible with that of Becker. Emphasis with respect to diabetic retinopathy is now placed on the duration rather than on the severity of the diabetic state.

Pathologic and Clinical Picture of Diabetic Retinopathy

The first and most characteristic pathologic change in the retina in diabetic retinopathy is the appearance of discrete saccules or aneurysmal dilatation of capillaries. On ophthalmoscopic examination, these aneurysms appear as clusters of tiny red spots with a predilection for vessels in the macular region.

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Robert Chow is now serving internship at the University of California Hospitals, San Francisco, California.

The second state of diabetic retinopathy consists of coalescing areas of aneurysms with surrounding intra-retinal hemorrhage and exudate.

In the third stage, there are changes in the veins, and increasing hemorrhage in the retina and vitreous with massive exudates. In the fourth stage, the vitreous hemorrhage resorbs slowly and is followed by fibrovascular organization leading to the condition known as retinitis proliferans. At this stage the eyes are severely damaged, resulting usually in loss of all vision due to contraction of fibrous bands, leading to retinal detachment, and extremely painful hemorrhagic glaucoma often ensues.

Hypophysectomy in Treatment of Diabetic Retinopathy

Great interest has centered on the possible benefit from hypophysectomy in treatment of the retinopathy since Houssay's discovery that extirpation of the adenohypophysis partially alleviated experimental diabetes in animal. The first case of diabetic retinopathy treated by hypophysectomy was reported by Chabaniér in 1936. The keen observation of Poulsen of the beneficial effect of post partial panhypopituitarism on diabetic retinopathy and the reports of several authors with the similar clinical observation, stimulated Luft to perform hypophysectomy systematically in suitable cases of diabetic retinopathy. He and his associates, who have the largest series of hypophysectomy for diabetic retinopathy, claim that after hypophysectomy the insulin requirement is lessened. From time to time, sporadically published cases of hypophysectomy in severe juvenile diabetes have appeared, and at the present time 109 cases are on record including four cases in our own hospital.

Case Materials

Case 1: The patient was a 37-year-old white housewife admitted to the University of Kansas Medical Center in January, 1958, with history of diabetes for 20 years. She did not adhere to any specific diet and acknowledged very poor control of her disease. In the three years prior to admission, she had developed evidence of diabetic complications, with ankle edema, anemia and hypertension. Six months prior to her admission, she had sudden loss of vision in the right eye with no recovery noted since then. She had no difficulty with her left eye.

On physical examination, her blood pressure was 185/80. There was absence of the light reflex in the right eye, and vitreous hemorrhage was noted. The left eye had grade II vascular sclerosis. Numerous retinal aneurysms and neovascularization were noted. The right eye was totally blind; however, the left eye had a normal visual field with slightly enlarged blind spot. Visual acuities of her right and left eye were 2/1000 and 20/40 respectively. There was 4 plus pitting edema of both ankles. There was impaired vibratory sense in all extremities.

Urinalysis showed a specific gravity 1.004, 2 plus albumin, 2 per cent sugar, and loaded with bacteria and pus. Hemoglobin was 8 grams, hematocrit 24 per cent, BUN 26, the rest of the tests were not significant. Because of her rapid cardiovascular and renal deteriorations, it was felt that the prognosis for her life was extremely poor if left untreated. Hypophysectomy was suggested to the patient, and subsequently was performed on her 19th hospital day. She recovered from the operation well, and was discharged on the following medication: NPH 5 units; cortisone 25 mgm.; thyroid 1 gm. daily. Vision in both eyes was unchanged at the time of discharge.

She was again hospitalized in April, 1958, because of uncontrollable vomiting and was treated with intravenous administration of fluids and low phosphorous diet and was discharged in May. However, the patient died at home during a hypoglycemic episode shortly after her discharge.

Case 2: This was a 26-year-old female nurse readmitted to Kansas University Medical Center on September 11, 1957, because of sudden blindness of the left eye of a week's duration. The patient had been a known diabetic since the age of 11 years, and had been treated through the years with various diets and various combinations of insulin. She had one episode of diabetic coma at the age of 13, and many minor insulin reactions. In March, 1957, she developed the first episode of visual loss of the right eye. Subsequently she had repeated small hemorrhages in the right eye and in the spring of 1957 had a large hemorrhage in the right eye, and has been totally blind in that eye since. In July, 1957 when she was

at a summer camp in Colorado, she suddenly developed transient blindness of the left eye. At that time her insulin requirement was NPH 32 and regular 8 units.

On physical examination, the blood pressure was 120/70; pulse 76. Ophthalmic examination revealed that the right eye had marked vitreous hemorrhage with proliferation and retinal separation over the nasal portion of the retina. The left eye showed a large central hemorrhage that, except inferiorly, had not yet broken out into the vitreous. Visual acuity at that time was 20/200 for the left eye and total blindness of the right eye.

Laboratory findings at that time were as follows: WBC was normal, repeated urine-analysis revealed specific gravity between 1.005 and 1.103 with persistent trace to faint trace of albumin and some pus cells. Chest examination and EKG were within normal limit. BUN varied from 11 to 18. Electrolytes were normal and urinary ketosteroids were normal. Because of the rapid progression of her retinopathy, hypophysectomy was done on September 25, 1957. Postoperatively the patient developed a wound infection, but she recovered rapidly without sequelae after debridement and drainage were done. The patient's overall recovery was good although she had convulsive seizures which were well controlled with Dilantin® and phenobarbital. She was admitted again in January, 1962, because of urinary infection. Ophthalmologic examination at this time was unchanged. When compared to the last examination, there was no evidence of recent hemorrhage. The patient could read by using her left eye in good light. She was last examined by our ophthalmologist in December, 1962. It was his opinion that the hypophysectomy had arrested the patient's retinopathy. The visual acuity of her left eye remains 20/200 in her almost six years' follow up.

Case 3: A 20-year-old white male was admitted to Kansas University Medical Center in March, 1962, with the chief complaint of progressive blindness. The patient developed diabetes mellitus at the age of three. At that time he was initially treated with Protamine Zinc insulin 5 units daily. Because he began having severe insulin reactions, he was then given Globin insulin and this was subsequently changed to NPH insulin which was gradually increased to a dosage of 46 units daily. The patient had occasional episodes of blurring of vision during the past several years. However, about one month prior to his admission, he had the onset of marked blurring of vision bilaterally. Since then he has not been able to read.

On physical examination, the blood pressure was 160/95. Upon examination of the eyes, there was

* Parke, Davis & Company, Detroit.

gross diminution of visual acuity. The patient could barely count fingers with either eye. Fundoscopic examination revealed severe change bilaterally with extensive patches of exudate, obliteration of vessels, and neovascularization. Visual acuities of right and left eyes were 6/1000 and 20/1000 respectively. The remainder of the examination was not remarkable.

Pertinent laboratory data: serum cholesterol 304, triglycerides were 240 mgm. per cent, CBC was normal, urine-analysis revealed 5 per cent sugar and 1 plus albumin with a few red and white cells per high power field, and a few hyaline casts were also seen. A two-hour postprandial blood sugar on admission was 299, BUN 30, creatinine 2, urinary steroids were within normal limit.

After the diabetes was better controlled, the patient underwent hypophysectomy on the 16th hospital day and tolerated the procedure well. He was discharged on the following medication: lente 14 plus senilente 4 unit, cortisone 25 mgm daily, haldol 10 mgm. daily, thyroid 1 gr. daily, and Pitressin Ten-nate 1 cc. every third day as needed. He was again admitted to KUMC in July because of severe chest pain. EKG taken at that time was interpreted as "acute anteroseptal infarction." Ophthalmologic examination at this time revealed increased gliosis in both eyes centrally. Venous congestion appeared less. He was followed by the cardiovascular and vascular eye clinics. On his last visit, six months after the operation, the ophthalmologist noted that the left eye remained the same. The right eye had an increased amount of proliferation and vascularization, but the temporal retina was more visible. The impression was that there was no overall improvement.

Case 4: A 46-year-old white female was admitted to Kansas University Medical Center on September 4, 1962, because of poor eyesight. She had been a known diabetic for 18 years and was taking 40 units of NPH. She had been in acidosis and had repeated insulin reactions in the past. For the past five years the patient had gradually failing vision which had become progressively more severe. Because of her poor eyesight she was unable to work. She was ad-

mitted to the neurosurgery service at KUMC for consideration of hypophysectomy.

Upon examination, the patient was well developed and well nourished. Her blood pressure was 130/80, pulse 76, and she had grade III diabetic retinopathy with hemorrhage and exudate bilaterally. Visual acuities at that time were 8/200 and 3/200 for her right and left eye respectively. The remainder of the physical examination was not remarkable.

Laboratory data: admission urine analysis was not remarkable. Hemogram was normal, BUN and creatinine were normal, blood sugars on admission ranged from 144 mg. per cent to 295 mg. per cent, Cholesterol 220, serum lipid 833. EKG and chest x-ray were normal. She underwent hypophysectomy on the fourth hospital day and tolerated the procedure quite well. The patient, however, had numerous insulin reactions despite efforts to decrease her insulin therapy. Her postoperative management was mainly involved with management of the diabetic problem. The patient was discharged in October on 9 units NPH, 60 mgm. hydrocortisone, Cytomel®* 25 mgm., Dilantin® 300 mgm., and a 2,200 calorie diabetic diet. The patient has been followed by the diabetic clinic. She was last examined in January, 1963, and her visual acuity was the same as in the preoperative examinations.

The four cases reported above are all of late manifestation of diabetes. Some of the changes are apparently irreversible except for case number four which is too recent to evaluate the overall improvement. The effects of hypophysectomy on the four patients are summarized in *Table 1*.

The laboratory data are the average figures during the hospitalization labeled as preoperative data and follow up average as postoperative data.

The results of all reported cases of hypophysectomy in the treatment of Diabetic Retinopathy are summarized in *Table 2*.

Of those patients reported as dying during their postoperative follow up, 50 per cent of the total deaths were due to diseases unrelated to the opera-

* Smith, Kline & French Laboratories, Philadelphia.

TABLE 1
THE EFFECTS OF HYPOPHYSECTOMY ON PATIENTS WITH DIABETIC
RETINOPATHY AT THE UNIVERSITY OF KANSAS MEDICAL CENTER

Case No.	Age	Duration of Disease	Urine Analysis		Blood-Pressure		BUN		Insulin		Vision		
			PREOP.	POSTOP.	PRE- OP.	POST- OP.	PRE- OP.	POST- OP.	PRE- OP.	POST- OP.	IMP.	WOR.	UNCH.
1	37	20 yrs.	2+	3+	1+	1+	185/85	100/65	26	39	15	5	—
2	26	15 yrs.	1+	1+	—	—	120/70	130/80	15	11	40	5	—
3	20	17 yrs.	1+	3+	—	—	160/90	90/60	30	16	45	18	—
4	46	18 yrs.	—	—	—	—	130/80	132/84	15	14	40	9	—

TABLE 2
EFFECT OF HYPOPHYSECTOMY ON DIABETES RETINOPATHY
OF ALL CASES REPORTED IN THE LITERATURE

<i>Author</i>	<i>Published</i>	<i>Cases</i>	<i>Improved</i>	<i>Worse</i>	<i>Unchanged</i>	<i>Death</i>
Luft	1956	*20	7	2	3	7
Gordon	1956	11	3		5	3
Schimek	1956	5	2		3	
Kinsell	1957	9	2	1		6
Moore	1957	1				1
Anderson & Kjerulf	1958	2	2			
Slater & Nabarro	1958	3	2			1
Javid	1958	10	4		1	5
Hernberg & Vannas	1959	11	4	2	4	1
Pearson & Ray	1960	14	8		2	4
Ainslie, Logue & Nabarro	1962	7	3	1	2	1
Lundback, Ohrt, Malmros, Andersen & Jensen	1962	12	4	3	5	
Williamson	KUMC hosp. record	4			3	1
Total		109	41	9	28	30

* One case was too recent to evaluate at the time his report was published.

tion. The actual number of deaths attributed to post-operative complication was seven, which represents a mortality of 6.4 per cent. The causes of all deaths of all diabetic patients who had hypophysectomy in the treatment of retinopathy are shown in *Table 3*.

Discussion

Following the classical experimental work of Houssay, in which he demonstrated that destruction of the anterior pituitary gland modified pancreatic diabetes and rendered the animal highly sensitive to insulin and susceptible to severe hypoglycemia, Poulsen made similar observations in a postpartum dia-

betic woman who had Symmond's disease and felt that hypopituitarism might have a beneficial effect on diabetic retinopathy. Becker claims to have produced retinal micro-aneurysms by injecting corticotrophin into an animal with alloxan diabetes. Later, Luft did hypophysectomy to eliminate those anterior pituitary factors which have been shown to possess a diabetogenic action in animals and humans. In his experiments, growth hormone purified from human pituitary glands was administered to three hypophysectomized diabetic patients. In all three patients, the hormone administration was followed by a remarkable increase in blood sugar level, glycosuria and

TABLE 3
THE CAUSES OF ALL DEATHS OF DIABETIC PATIENTS
WHO HAD HYPOPHYSECTOMY IN THE TREATMENT
FOR RETINOPATHY REPORTED IN THE LITERATURES

<i>Author</i>	<i>Hepatitis</i>	<i>Post-operative Compli.</i>	<i>Septicemia</i>	<i>Hypogly.</i>	<i>Coronary Disease</i>	<i>HCVD</i>	<i>Nephropathy</i>	<i>Pneumonia</i>
Luft		2	1	1	1	1	1	
Gordon		1		2				
Hernberg		1						
Kinsell					1		4	1
Slater		1						
Pearson	1				1		2	
Javid		1		4				
Ainslie		1						
KUMC				1				
Total	1	7	1	8	3	1	7	1

acetonuria. Similar results have been observed in nonhypophysectomized patients with diabetes mellitus. This clinical observation was confirmed by Pearson and Greenberg in 1960, who concluded that hypophysectomy appeared to remove a factor which resulted in an amelioration of the metabolic defect in these patients as evidenced by a reduced insulin requirement. It is well known that the vascular phenomena in the diabetic patients are the integral parts of the diabetic state. Although there is no direct evidence that the pituitary gland and its target organs can produce diabetic retinopathy in humans, its consistent diabetogenic effect makes the possibility that the pituitary gland might be implicated in the etiology of diabetic retinopathy very attractive.

Clinically, most authors hold that impairment of vision generally ends after hypophysectomy and the process becomes less active and retinopathy hardly progresses at all.

Luft had followed the fundi in ten patients. In one of them the process had progressed. In the other nine the process had halted. Vannas pointed out that the vascular process altered its malignant character after hypophysectomy, since the venous changes, characteristic of proliferative diabetic retinopathy, tend to regress and disappear after the operation.

Javid felt that hypophysectomy transformed a severe diabetic to a mild one as far as insulin requirement was concerned. It was his opinion that hypophysectomy causes definite improvement in retinopathy. The improvement consisted of cessation of hemorrhages; absorption of hemorrhage and exudates; diminution or disappearance of micro-aneurysms and maintenance of improvement in visual acuity. On the other hand, it has been illustrated that retinitis proliferans present in most patients has shown essentially no change. This may explain the varying results from different authors.

We have only very limited experience at the University of Kansas Medical Center regarding hypophysectomy in the treatment of diabetic retinopathy. However, by reviewing the world literatures and analyzing the results, one can draw certain general concepts:

(1) Almost invariably all patients are sensitive to insulin after hypophysectomy, and hence less hypoglycemic agent is needed.

(2) Almost all the patients had hypertension preoperatively but have lower blood pressure both systolic and diastolic after hypophysectomy.

(3) Hypophysectomy should be considered when the first changes in the eye grounds are observed, since the earliest changes in diabetic retinopathy are the most reversible ones.

(4) For the same reason, those who have severely damaged eyes with stage IV changes, will probably not be benefited by such an operation.

(5) The procedure should not be done on a patient who will not follow instructions regarding insulin and diet.

(6) The other contraindication for hypophysectomy is when the patient has severe renal insufficiency.

Other means of destroying the pituitary gland have been devised and modified, such as proton radiation and pituitary stalk section. However, we feel that the section of the pituitary stalk is not parallel to hypophysectomy functionally as far as improvement in vision and alteration in endocrine assays are concerned. Cases studied by LeBeau at autopsy reveal evidence of a reunion of the two ends of the stalk with vascular regeneration in the scar.

Summary

Review of the world literature regarding hypophysectomy in the treatment of diabetic retinopathy and the results of follow up cases are tabulated. Four cases from the University of Kansas Medical Center are reported. One patient died of hypoglycemic shock after discharge from the hospital. One patient's retinopathy is arrested and she is able to maintain good, functional vision with no evidence of progression of the disease in her six years' follow up. One patient has objective improvement but functionally diminished vision. Case number four is too recent for an accurate evaluation.

Of all the cases reported in the literature, only 37 per cent of the total were proved to have both subjective and objective improvements in their visual acuities and visual fields. About 24 per cent of the total cases had ceased the progression of their retinopathy. Only about 8 per cent of all the patients had progressively worsening retinopathy. The rest of them died either due to immediate postoperative complications, which is only 6.4 per cent, or diseases unrelated to the operation. In short, 60 per cent of all the cases reported were benefited by hypophysectomy for diabetic retinopathy. One should bear in mind that not only in the early stages of this heroic approach for diabetic retinopathy was the experience limited, but also a good percentage of the patients had severe, irreversible retinal damage. Hence, the results of hypophysectomy for diabetic retinopathy varied. There is reason to hope that with improved selection of cases and experiences in postoperative management and cooperation of patients the long time useful survival of the victims of this disease will be increased. Since the disease in question is like cancer in its poor prognosis, a measure as radical as hypophysectomy is regarded as justified in selected cases.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

American Medical Association

Report on Actions of the House of Delegates

Tobacco and health, the rights and privileges of Negro physicians, revision of the AMA Constitution and Bylaws, voluntary health agencies and blood banks were among the major subjects acted upon by the House of Delegates at the American Medical Association's Seventeenth Clinical Meeting held December 1-4, 1963, in Portland, Oregon.

The AMA Layman's Citation for Distinguished Service was awarded for the sixth time, and for the first time at a Clinical Meeting, to Mr. M. Lowell Edwards of Santa Ana, Calif., and Brightwood, Oregon. Mr. Edwards, a 65-year-old retired engineer, has designed and built artificial heart valves now in use in more than 2,600 persons with diseased hearts.

The House at its opening session expressed deep shock at the tragic death of the late President John F. Kennedy and directed that a letter of heartfelt sympathy be sent to Mrs. Kennedy, her children and the late President's family. The House also pledged its support to President Lyndon B. Johnson in forging national unity in the weeks and months ahead and offered the Association's resources, counsel and cooperation on matters of health.

Dr. Edward R. Annis, AMA president, reporting on the recent House Ways and Means Committee hearings on the King-Anderson Bill, told the House:

"The combined testimony of the American Medical Association, the state societies and our allies made a far greater impact on the members of the committee, friend and foe alike, than at any other time in the history of this long and bitter conflict."

Dr. Annis also reported that under questioning from Committee Chairman Wilbur Mills, actuaries of the Department of Health, Education and Welfare admitted that the program of tax-paid hospitalization and related benefits for the aged proposed in the King-Anderson Bill would require a tax rate twice as high as they have previously claimed.

Tobacco and Health

The House approved a Board of Trustees proposal that the American Medical Association Education and Research Foundation undertake a "comprehensive program of research on tobacco and health."

Agreeing that many gaps exist in knowledge about the relationship between smoking and health, the House declared that the study should be "devoted primarily to determining which significant human ailments may be caused or aggravated by smoking,

how they may be caused, the particular element or elements in smoke that may be the causal or aggravating agent, and methods for the elimination of such agent."

The action called for procuring a project director "whose experience, qualifications and integrity will assure that such a research project will be conducted effectively, exhaustively and with complete objectivity."

The House agreed that the project should be financed by a substantial contribution from the American Medical Association and that contributions should be solicited from other sources—industry, foundations, voluntary health agencies and physicians. It was emphasized that contributions will be accepted only if they are given without restrictions.

Subsequent to the House action, the AMA Board of Trustees voted to contribute \$500,000 to help finance the research program.

Negro Physicians

The House considered two proposals related to Negro physicians—a Board report on hospital staff privileges and a resolution concerning membership eligibility in state and county medical societies. The Board report was approved, but the resolution was not adopted.

In adopting the Board report, the House declared that "members of the medical staff of every hospital, where the admission of physicians to hospital staff privileges is subject to restrictive policies and practices based on race, be urged to study this question in the light of prevailing conditions with a view to taking such steps as they may elect to the end that all men and women professionally and ethically qualified shall be eligible for admission to hospital staff privileges on an equal basis, regardless of race."

In both its approval of the Board report and its rejection of the proposed resolution—which would have denied the rights and privileges of AMA membership to members of any state or county society which refuses membership to any qualified physician because of race, religion or place of national origin—the House reaffirmed 1950 and 1952 policy actions on this subject and directed that a copy of the 1950 resolution again be sent to each state and county medical society. That resolution urged that "constituent and component societies having restrictive membership provisions based on race study this ques-

tion in the light of prevailing conditions with a view to taking such steps as they may elect to eliminate such restrictive provisions."

AMA Constitution and Bylaws

The House approved comprehensive revisions and rearrangements of the Association's constitution and bylaws as submitted by the Council on Constitution and Bylaws. Among the changes are the following:

1. The Annual and Clinical "Sessions" have been renamed the Annual and Clinical "Conventions."

2. The word "constituent" has been changed to "state."

3. Two types of membership have been created, "Active" and "Special." Active Members are Regular or Service Members. Special Members are Associate, Affiliate and Honorary Members.

4. Affiliate Membership will be available to American physicians engaged in medical missionary and similar educational and philanthropic labors located in possessions of the United States.

5. A quorum will be 100 of the voting members of the House rather than 75.

6. A method has been established to replace a general officer who misses six consecutive meetings of the Board of Trustees.

7. A method has been established for the successor to the President to assume the Office of President if the President dies, resigns or is removed from office.

8. The Board of Trustees has been given express authority to appoint committees.

The House retained present provisions concerning voting on amendments to the constitution but agreed that this matter might be considered by the Committee to Review the Organization of the AMA House of Delegates.

Voluntary Health Agencies

In approving a Board report on professional relationships with voluntary health agencies, the House declared that "the AMA maintain its policy of neither approving nor disapproving national voluntary health agencies." It also agreed "that the AMA, through its Committee on Voluntary Health Agencies, maintain its position of offering guidance on medical aspects of national voluntary health agency programs."

The House approved the "Principles for Medical Guidance to National Voluntary Health Agencies" which contain a new definition of a voluntary health agency, objectives of the Committee on Voluntary Health Agencies and a list of suggested mutual obligations between the AMA and the national volun-

tary health agencies. The House directed attention to the following two obligations:

"There should be a mutual exchange of information and opinion enabling the medical profession and the agency to understand each other's policy and practice."

"A national voluntary health agency should seek the advice of the medical profession when embarking on a national medical program."

In another action, the House also agreed with a recommendation that the Committee on Voluntary Health Agencies be given the status of a council in the AMA organizational structure.

Blood Banks

The House adopted a policy statement pointing out that in recent years there has been a dramatic growth of blood banking facilities in the United States and declaring that "it is highly essential that the organization of new blood banking programs and the modification of existing ones should have, in the interest of public health and safety, the approval of the county or district medical society and, therefore, should be coordinated with existing approved blood banking facilities." The House also approved a floor amendment stating that since a blood bank can well be considered a medical facility, the top authority in a blood bank should be a physician.

Miscellaneous Actions

In considering a wide variety of reports and resolutions, the House also:

Changed the name of the Council on Scientific Assembly to the *Council on Postgraduate Programs*;

Extended AMA Affiliate Membership to *scientists* in sciences allied to medicine;

Changed the name of the Council on Medical Education and Hospitals to the *Council on Medical Education*;

Approved an amendment to the Bylaws which would permit the *opening session* of the House of Delegates to be held on Sunday afternoon or evening;

Expressed gratification that the work of the *Committee on Medicine and Religion* has received widespread acceptance and support from state and county medical societies, religious groups and other related organizations;

Received a report on the AMA Members *Retirement Plan* and urged physicians to act quickly if they are to exercise their rights under Public Law 87-792 during 1963;

Requested the AMA to seek improvements in the format of its *American Medical Directory* to make it easier to use;

Asked the Association staff to study the feasibility of opening the *Clinical Meeting* two Sundays prior to Thanksgiving Day;

Approved recommendations for criteria on medical examinations for *driver limitation* under certain specified conditions;

Suggested that an appropriate committee of the AMA work with the United States Public Health Service and the industry in providing a type of *detergent* that will assure safety to the health of the public;

Urged that the term "the aging" be used instead of "the aged" in all statements by the medical profession regarding older persons;

Approved the "Guides for Medical Society Committees on Aging" and recommended their wide distribution and use;

Received a progress report from the *Commission on the Cost of Medical Care*, which will present its final report in June, 1964;

Agreed that the *Committee on Rehabilitation* should be reconstituted and that it should include participation of knowledgeable representatives of all related fields of the practice of medicine;

Earnestly recommended that the state medical societies explore the advantages of implementing *Kerr-Mills programs* in a manner which will permit the care of beneficiaries under voluntary health insurance programs;

Resolved that the AMA attempt to have removed from the *Kefauver-Harris Amendment* those provisions which authorize the U. S. Food and Drug Administration to determine the effectiveness of drugs;

Reaffirmed the Association's policy of opposing the inclusion of self-employed physicians under *Social Security*;

Agreed that a *short form medical record* may be used in cases of a minor nature and, in general, should apply to hospital stays of 48 hours or less;

Approved a Board of Trustees conclusion that the *Honors and Scholarship Program*, originally proposed in 1960, not be implemented in the light of present circumstances, and

Urged all AMA members to continue to support the *Woman's Auxiliary* so that it can be successful in increasing its membership, raising more revenue and broadening its range of activities.

Merck Sharp and Dohme pharmaceutical company made its third contribution of \$100,000 to the student loan fund of the American Medical Association Education and Research Foundation. The AMA-ERF also received a total of almost \$400,000 from physicians in three states for financial aid to medical schools. The House paid tribute to Mr. Thomas A. Hendricks, who is retiring on December 31, for his 20 years of AMA service. Dr. Annis was "commended and encouraged in his great work for private enterprise and free American medicine." By a rising vote of acclamation, the House also expressed appreciation to Dr. Jesse D. Hamer of Phoenix, Arizona, who is retiring after 30 years as a delegate.

GEORGE F. GSELL, M.D.

LUCIEN R. PYLE, M.D.

Delegates from Kansas

KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on June 5-6, 1964, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application blanks and other information can be obtained from Dr. L. C. Heckert, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

The President's Message

DEAR DOCTOR:

AMA testimony in opposition to the King-Anderson bill contains some interesting statements. Here are a few.

"Four and one-half million Americans are alive today who would be dead if the mortality rate of 25 years ago still prevailed."

"For the first time in our history, average life expectancy for Americans has exceeded the Biblical three score and ten, and it now stands at 70.2 years. A dramatic illustration of modern medical progress is the fact that of all the people reaching age 65 since the beginning of time, 25 per cent of them are alive today."

"Eighty per cent of the drugs commonly prescribed today were unknown just ten years ago. . . ."

"There now is a record number of hospital beds in this country—1,670,000, an increase of more than a quarter million beds since 1948."

"The average length of stay in a general hospital is now at its lowest point in our history."

"In 1961, infant mortality declined to the lowest in United States history, 25.3 deaths per 1,000 births."

"A record number of 7,168 new physicians graduated from U. S. medical schools last year, and a record number of 31,078 students were enrolled in medical schools during the past academic year."

"During the past 13 years, this nation built 763 new hospitals (while Great Britain was building only one), increasing our total number of hospitals to almost 7,000."

"A record number of Americans, 141 million, are now covered by voluntary health insurance and prepayment plans. . . ."



Sincerely,

H. St. Clair O'Donnell M.D.

President



Medicine and the Consumer

Historians of the future may decide the great revolution of this era is the rise to power of the consumer. Once a product or service was offered the public upon terms selected by the producer. Success depended upon public purchase or usage, but until the past few decades the consumer was an individual in what was termed the "market."

Witness public commodities such as the railroads. A customer rode a train if the schedule and the fare met his convenience. Today his voice, through representative government, determines both the schedule and the fare.

An increasing number of the so-called essential services and commodities are today regulated by the consumer. The producer still holds title to his property. His product is still sold, but the conditions upon which this may be marketed are defined by the consumer.

The cry for government control over the practice of medicine is one further test of the strength of the organized consumer. Call it "socialism" and you are correct, but look at it as the consumer demanding the right to dictate to the producer the terms under which he will accept medical care and you will recognize the importance of public opinion.

The physicians of America see two million patients every day. In one year that accounts for three-quarters of a billion patient-physician relationships or some four times the national population. Each one hundred days physicians see the equivalent of every man, woman and child in this nation.

If his experience with the physician is satisfactory from the standpoint of service and cost the consumer will not ask for a change. He does so only where he believes alteration will be to his advantage. So, the

answer to problems medicine faces today is, in the final analysis, not so very complex.

The answer lies, as has so many times been stated, in the office of each practicing physician. If the two million patients who daily see some 230,000 physicians are satisfied they will resist alteration. Multiply individual satisfaction by the total, that powerful new force of the organized consumer, and the desire for socialized medicine, or Federal medicine, or third party medicine is dissolved.

Once this situation has been achieved the office holder will soon become aware of the fact and government pressure to usurp personal liberties in the practice of medicine will be over.

Nothing stated here is so very original, but neither is it very complicated. Nothing recommended is very radical, but neither is it difficult to achieve. Nothing proposed here is very dramatic, but the formula is true. It will, simple as it is, work. We wonder, at this writing, if anything other than this could.

Membership

Numerous questions relating to membership regulations prompted the following analysis of this subject.

The component or county medical society is the only portal of entrance into organized medicine. Every physician with a degree of Doctor of Medicine and a license from the Kansas State Board of Healing Arts, if the majority of his professional work is carried on within this state, is eligible to apply for membership in the component society where he lives. Under unusual circumstances, and if both component societies agree, a physician may apply for membership

in some other society within the state. Membership is achieved upon favorable action taken by the county society to which the applicant has applied. The condition and the classification of membership in the Kansas Medical Society and in the American Medical Association is controlled by the decision of the component or county society.

The Kansas Medical Society recognizes five classifications of membership. All carry with them full rights and privileges, including a subscription to the JOURNAL OF THE KANSAS MEDICAL SOCIETY. The first is the DUES PAYING member. In addition to this, there are four categories of DUES EXEMPT membership. The first of these is classified as *In-Service* and is granted for the duration of a physician's active connection with the armed forces. The second is entitled *Leave of Absence* which is granted a physician who, because of extended graduate education or illness, is for a period of time not engaged in the practice of medicine. The third is the *Honorary* membership granted a physician for long years of faithful service to the practice of medicine. The fourth is called an *Emeritus* membership available to a physician 75 years of age or older who has been a dues paying member for the past ten years. The last two mentioned categories are permanent; the other dues exempt categories are temporary. All are determined by action of the component society and all such actions will be honored by the Kansas Medical Society.

The American Medical Association has a slightly different membership classification, but in most instances accepts the dues status recommended by the component society. The AMA has two major classifications. The first is ACTIVE membership. These are physicians who are eligible to vote and hold office in their state association whether they are dues paying or dues exempt members. Active members may be excused from the payment of AMA dues by their state association for the following reasons: financial hardship, illness, intern and resident training, retired from active practice, temporary service in the armed forces, or over 70 years of age. Regular members excused from the payment of dues do not receive *Today's Health* or any scientific publication of the AMA except by personal subscription. The second section under active membership relates to *Service* members. This group includes all regular commissioned medical officers and commissioned medical officers of the reserve components on extended active duty (more than two years) with the U. S. Air Force, U. S. Army, U. S. Navy, U. S. Public Health Service; and permanent medical officers of the Veterans Administration; and those physicians who have been retired in accordance with Federal Law and do not

engage in any gainful employment. Service members shall have the same rights and privileges as regular members but shall not be required to pay dues and shall not be entitled to receive *Today's Health* or any scientific publication of the AMA except by personal subscription.

The second major AMA category relates to SPECIAL membership in which the definition does not entirely coincide with that of the Kansas Medical Society. *Associate* members are physicians who are ineligible for regular membership in the AMA or members of the armed forces on temporary duty of two years or less. *Affiliate* members relate to medical missionaries located in foreign countries, foreign physicians, dentists, pharmacists and scientists. They are elected by action of the AMA House of Delegates. The third relates to *Honorary* members who are physicians of foreign countries who have risen to pre-eminence in the profession of medicine and who attend an AMA convention. These three categories of AMA membership may attend meetings but may not vote or hold office, and may receive AMA publications upon payment of subscriptions.

Buy U.S. Savings Bonds

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

B. Douglass Frierson, Jr., M.D.

1524 Shunga Drive
Topeka, Kansas

William B. Gauert, M.D.

3001 West 48th Terrace
Shawnee Mission, Kansas

Peter Hartocollis, M.D.

The Menninger Foundation
Topeka, Kansas

J. Tarlton Morrow, Jr., M.D.

The Menninger Foundation
Topeka, Kansas

Frank A. O'Connell, M.D.

7830 State Line
Shawnee Mission, Kansas

Gerald L. O'Connell, M.D.

7830 State Line
Shawnee Mission, Kansas

Perry L. Rashleigh, M.D.

213 South Grant
Smith Center, Kansas

C. E. Sherwood, Jr., M.D.

Santa Fe Hospital
Topeka, Kansas

Margaret Shiney, M.D.

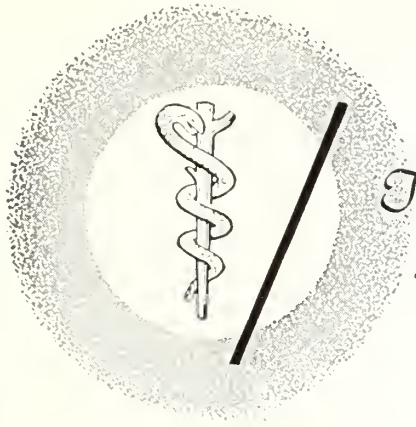
1116 West 37th Street
Topeka, Kansas

John V. Sullivan, M.D.

1815 West 24th Street
Topeka, Kansas

William B. Triplett, M.D.

1830 Pembroke Lane
Topeka, Kansas



The Kansas Press Looks at Medicine

Editor's Note. In this section the JOURNAL reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

KANSAS DOCTORS TRIED TO MAKE PLAN GENUINE

The Kansas plan for medical aid to the elderly is a phony.

It will not help the majority of oldsters who are afflicted by catastrophic illness.

The responsibility belongs to the State Board of Social Welfare appointed by Governor Anderson.

The doctors are not to blame.

That the doctors have been criticized unjustly may be explained by such a lack of communication between them, the administration and the press that I almost am ready to believe that the facts were subverted on purpose. Rarely have I seen such misunderstanding.

The Kerr-Mills act providing matching federal funds to the states permits the states to design their own programs along broad lines. The Kansas statute implementing the program delegates the details to the State Board of Social Welfare.

This Board has set regulations limiting aid to those persons beyond 65 who are on the verge of going on public charity. In effect, the Board has merely extended the limits of welfare aid, adding to those who may be considered indigent.

Details of the Board's welfare scheme were told only a few weeks ago.

Here is the real point of argument. The doctors contend the plan was not designed only for the poverty stricken. They say it should have been drawn so that the costs of catastrophic illness, such as cancer, would not deplete the life-savings of the elderly to the point they are forced onto welfare rolls.

The doctors would keep the sick elderly off of the

welfare rolls, not force them to take charity because their normally ample resources are exhausted.

To do this fairly, the doctors suggested a schedule of deductions graduated to income before aid would be granted. The rich would get little or no help, the moderately well-to-do would get moderate help and the poor would get total help in the event of catastrophic illness.

The doctors even suggested that, if the state appropriation were insufficient, they would pro-rate their fees to make the money cover the need.

This plan the Board of Welfare and the Governor refused to consider, although they did promise a later study.

A secondary argument, about the method of disbursing the funds, got most of the attention. The doctors wanted an insurance type of plan, the Board wanted to control detailed charges and payments and would not negotiate, although the doctors wished to do so.

Thus Kansas has a plan that isn't a plan to assist the afflicted elderly, and the Board of Social Welfare seems unlikely to change its mind unless the 1965 Legislature directs it to do so.

But the doctors tried.—*Salina Journal*, December 23, 1963.

IT'S DANGEROUS TO BE KIND

It seems shocking but a survey some time back by *Medical Tribune*, a newspaper for physicians, showed that half of the doctors polled would be reluctant to stop and assist an injured person at the scene of an accident. The reason: fear of lawsuits.

(Continued on page 91)



Blue Shield

Growth of Local High Level Service Benefit Plans in 1963

Local growth of high level Service Benefit Plans continued in 1963 as additional societies approved Schedule 3 and two counties worked with Blue Shield to develop a new alternative program for their area.

Although enrollment has not been completed in all counties where 1963 approval of Schedule 3 has been voted by local societies, an additional six counties have joined the list of Schedule 3 sponsoring areas bringing to 73 the number of Kansas counties in which this program is—or soon will be—available. Among these counties are the following: Douglas, Doniphan, Nemaha, Osborne, Norton and Miami.

Schedule 3—which bases service benefit determination upon the subscriber's having no duplicating medical/surgical insurance and upon occupancy of a semi-private room when hospitalized—received several Fee Schedule improvements during 1963 which make it a more adequate program in several respects. In-hospital medical care allowances were revised with the effect that higher payments for short-stay cases are now available. Over 100 additional surgical allowances were upgraded above Schedule 2 levels as a result of work by the Special Blue Shield Surgical Committee, these new allowances becoming effective January 1, 1964. Benefits for the first hour's administration of anesthesia were increased above previous allowance levels, formerly the same as Schedule 2 anesthesia payments. Revised radiology benefits—both diagnostic and therapeutic—produced a radiology schedule thought to be much improved.

The effect of these revisions coupled with previous Schedule 3 features such as coverage for the first and last day of in-hospital medical care, assistant surgery allowances, in-hospital consultation benefits, and the

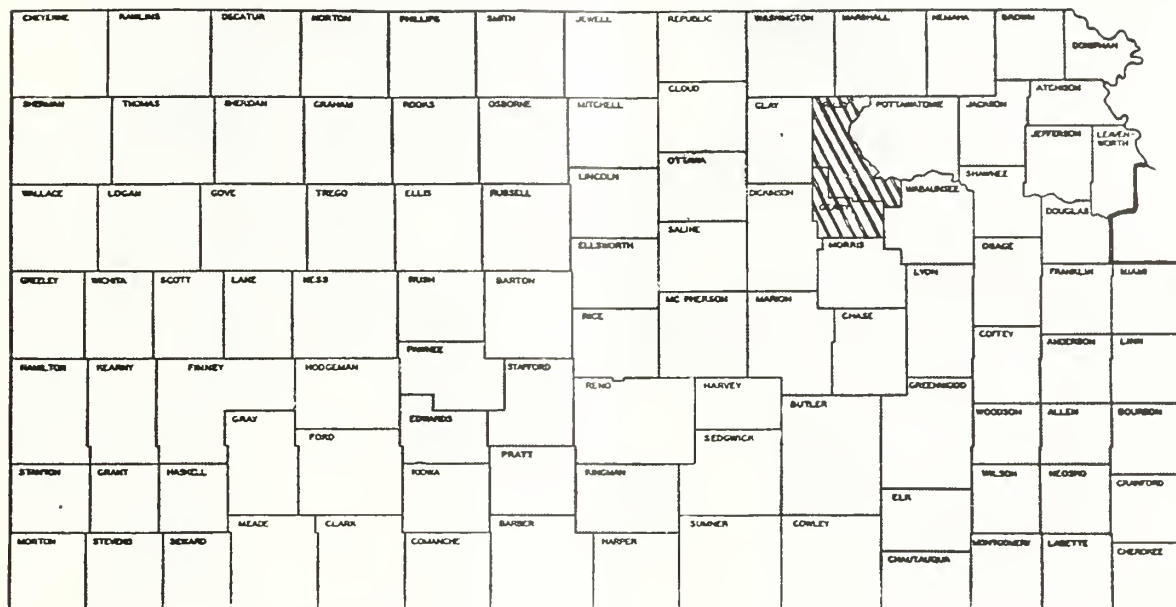
original 40 upgraded frequent surgical procedures (now increased beyond 150) may be of renewed interest to several local societies which have previously considered the program. Blue Shield staff continues to be available to explain the revised plan to interested groups of physicians upon their invitation.

A new experimental plan totally different in nature has also been developed through the efforts of the medical societies in Riley and Geary Counties working in cooperation with Blue Shield. The new plan is based upon the concept of paying fair and reasonable charges without a stated Fee Schedule if such charges remain consistent with fees for like services to non-Blue Shield patients within the individual physicians' practice. Many details of this program remain in the process of completion, and enrollment is expected to take place during late spring or summer months in these two counties. A more complete description of this plan will be the subject of a subsequent JOURNAL article.

With the addition of the new Riley/Geary experimental program, the present list of counties working with some form of high level Blue Shield service benefit plan includes 75 of the 103 counties composing the Kansas Blue Shield Plan Area. The map shows these counties.

It is hoped that additional areas will either approve Schedule 3 or work with Blue Shield on the development of alternative approaches to high level service programs during 1964. Blue Shield feels that locally acceptable plans which provide the large majority of Blue Shield subscribers with predictability of coverage is mutually advantageous to the medical profession and the subscribing public.

STATUS OF HIGH LEVEL SERVICE BENEFIT PROGRAMS
IN COUNTIES WITHIN KANSAS BLUE SHIELD PLAN AREA
January, 1964



COUNTIES WHERE LOCAL SOCIETIES HAVE APPROVED SCHEDULE 3



RILEY/GEARY EXPERIMENTAL PLAN

Kansas Press

(Continued from page 89)

The common law authority, "Prosser on Torts," explains: "The law has not recognized any general duty to aid a person who is in peril. But if the defendant enters upon an affirmative course of conduct affecting the interests of another, he is regarded as assuming a duty to act, and thereafter be liable for negligent acts or omission."

Cases where doctors have stopped to give first aid and later have had malpractice suits filed against them are numerous. The result is that there is a growing movement to enact state "Good Samaritan" legislation.

Fifteen states passed such laws in 1963 and 13 already had them. These exempt either physicians or physicians and nurses from civil liability when giving emergency aid in good faith; most withhold the immunity in cases of willful or wanton negligence or misconduct and specify that there must be a "reasonable degree of care" exercised.

Kansas is not among the states with such a law; Oklahoma and Nebraska are.

It is ironic that we must pass laws to protect persons trying to carry out the lesson of Jesus in the parable told in Luke 10:30-37. But that's the kind of society we have, so maybe Kansas should get in line.—*Wichita Eagle*, January 13, 1964.

PET TURTLE IS SALMONELLA CARRIER

SALMONELLA POONA, a rare type of bacterial infection, recently was isolated at a Milwaukee hospital from a 10-month old infant with a severe gastroenteritis. (This organism is closely related to *Salmonella typhimurium*, the most commonly isolated bacterium in food poisoning outbreaks in the United States.) Investigation by the pathologist revealed that the child had been given a small turtle to play with and, as might have been anticipated, placed it in her mouth. An editorial consultant said: "Parents should be alert to the possible exposure of their children to infections of this nature."—*Wisconsin Medical Journal*, October, 1963.



Personalities—IN KANSAS MEDICINE

Laurence S. Nelson, Sr. and Mrs. Nelson flew to San Francisco in October to attend the meeting of the American College of Surgeons. From San Francisco, they sailed with the Pan-Pacific Association's Educational Seminar to Honolulu and spent several days attending surgical meetings and sight-seeing. From there, the Seminar flew to New Zealand, Australia, the Philippines, Thailand, Hong Kong and Japan where they were entertained by the respective surgical associations.

W. C. Weir, Erie, was elected chief of staff of the Labette County Medical Center at a dinner meeting in December. Other 1964 officers are: **Donald E. McIntosh**, vice chief of staff, and **Charles F. Henderson**, secretary-treasurer. Both are from Parsons. **Evert C. Beaty**, Parsons, and **Arthur P. Burgess**, Oswego, were appointed to the executive committee.

A number of Society members were recently designated as Fellows and Associates of the American College of Physicians. Elected as Fellows were: **John M. Nichols**, Kansas City; **William R. Durkee**, Manhattan; **Delbert V. Preheim**, Newton; **Robert W. Weber**, Salina; and **Condon T. Hagan** and **Phillip W. Russell**, both of Wichita. **Edwin Z. Levy** of Topeka was among those selected as Associates.

Dr. and Mrs. W. David Francisco, Kansas City, flew in September to the town of Enugu, Nigeria, where Dr. Francisco worked and taught for several months at the general hospital under the sponsorship of MEDICO, a medical unit sponsored by CARE.

The annual seminar for occupational physicians was conducted by the Menninger Foundation Di-

vision of Industrial Mental Health in January. **Roy Menninger** served as moderator of the meeting. Faculty members included **William C. Menninger**, **Herbert Modlin**, **Ann Applebaum** and **John Turner** of the Menninger Foundation, and **Howard Williams** and **Paul Feldman** from the Topeka State Hospital.

Donald C. Greaves, chairman of the department of psychiatry at the University of Kansas School of Medicine, has been designated faculty exchange professor to the University of the Philippines. Dr. Greaves left for the Philippines the first of January and will return in March.

John Atkin, Yates Center, has been appointed to the administrative board of the Mental Health Center in Humboldt, which serves Woodson, Allen and Neosho counties.

The medical staff of Providence Hospital in Kansas City elected **James B. Pretz** as president at their meeting in December. Other officers elected were **Ralph J. Rettenmaier**, president-elect; **Arnold F. Nothnagel**, vice president; and **Robert H. Kurth**, secretary.

New officers of the medical staff at Mt. Carmel Hospital, Pittsburg, are: **Douglas H. Wood**, chief of staff; **George W. Pogson**, vice president; and **Dave J. Lyons**, secretary.

Donald L. Rose, **Larry L. Calkins**, **G. O. Proud**, and **Arthur Klotz**, all of Kansas City, participated in the 15th annual convention of the Missouri Academy of General Practice held in Kansas City in October.



Book REVIEWS

DRUGS IN CURRENT USE: 1963. Edited by Walter Modell, M.D. Springer Publishing Company, Inc., New York, New York, 1963. 152 pages. \$2.50.

The enormous number of drugs currently on the market and the massive annual additions to the list make it important for physicians to have a ready reference to drugs in current use. No really practical reference book of this type has been produced, and, considering the magnitude of the task, it is probably impossible to prepare one of reasonable size and price. Such a book must, to be ideal, be revised often enough—and who is to say how often that is?—to be strictly up to date. The most popular book of this type is one that is distributed free to physicians by the publisher of a well known and well read "throw away" magazine that subsists on advertising revenue, but its value is limited by the fact that all of the material in it consists of statements of the drug manufacturers, and these mirror closely the "poop sheets" that are distributed with drug samples.

Drugs in Current Use: 1963 is an alphabetical listing of drugs currently used in practice, and includes, in addition to established products, new ones that are still on trial and older ones of questionable value that are still rather widely employed. Biologicals are not listed, and mixtures have been avoided; perhaps this will be considered a shortcoming by the devotees of polypharmacy.

The editor provides for each drug listed a short statement of its principal pharmacologic characteristics and of its therapeutic use, including preparations, dosage and mode of administration. Other pertinent information is supplied in capsule form when indicated. Short essays on pharmacologic groups of drugs are included in the alphabetical listing, and these are often more detailed than the statements about the individual drugs. Drugs are described under their non-proprietary names, but common proprietary names and synonyms are included for purposes of cross reference.

The book is of convenient size; bound of "soft" cover (i.e. paper-back); and is inexpensively priced. It should prove useful to virtually all practicing physicians.—*J.D.R.*

ELECTROCARDIOGRAPHY. By Michael Bernreiter, M.D., F.A.C.P., 2nd edition, J. B. Lippincott Company, Philadelphia, 1963. 202 pages illustrated. \$7.50.

This second edition represents an expertly written, wonderfully illustrated, treatise on electrocardiography, and is a comprehensive and yet concise coverage of the subject. The electrophysiology of both normal and abnormal electrocardiograms is clearly explained. All aspects of clinical electrocardiography, including the abnormalities seen in congenital heart disease, electrolyte disturbances, endocrine disorders, as well as the effects of certain drugs, are treated separately.

All of the EKG reproductions are of superb quality. This edition has almost doubled the number of illustrations present in the first edition. Three new chapters are added, dealing with Electrical Interference, Artefacts and Technical Errors; The EKG in Thyroid Disease; and The EKG in Congenital Heart Disease.

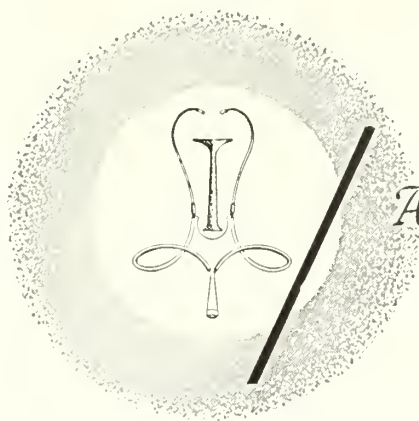
Any physician who conscientiously studies this book should be able to interpret most of the electrocardiograms he sees.

The book is unreservedly recommended to all who are not already expert cardiologists.—*V.E.R.*

TEXTBOOK OF ABNORMAL PSYCHOLOGY. By N. H. Pronko, Ph.D. The Williams & Wilkins Company, Baltimore, Maryland, 1963. 446 pages illustrated. \$7.50.

Doctor Pronko clearly states that he is a follower of no particular system or school of psychological

(Continued on page 95)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

FEBRUARY

- Feb. 29 Kansas Obstetrical Society, Hotel Gillett, Manhattan, 1:00 p.m. Speakers: Warren H. Pearse, M.D., Dept. of Ob-Gyn, Univ. of Nebraska; Bernard Foster, M.D., The Menninger Foundation, Topeka; and Kermit Krantz, M.D., Univ. of Kansas Medical Center. Following the program and business meeting, there will be a social hour and dinner. Tickets are available for the Kansas State-Oklahoma basketball game in the evening.
- Feb. 29-
Mar. 5 International Academy of Proctology—annual teaching seminar, Deauville Hotel, Miami Beach.

MARCH

- Mar. 1-6 American College of Allergists graduate instructional course and 20th annual congress, Miami Beach. Contact: John D. Gillaspie, M.D., 2141 14th St., Boulder, Colo.
- Mar. 3-6 Midwest Clinical Session, Colorado Medical Society, Denver Hilton Hotel, Denver.
- Mar. 20-21 Spring Hospital Workshop, Kansas City Southwest Clinical Society. Write: Kansas City Southwest Clinical Society, 3036 Gillham Rd., Kansas City, Mo. 64108.
- Mar. 16-19 Sectional meeting, American College of Surgeons, New Orleans, La. Write: Samuel J. Harbison, M.D., 55 E. Erie St., Chicago 11.

APRIL

- Apr. 3-4 Midwest Cancer Conference, Broadview Hotel, Wichita.

POSTGRADUATE COURSES

American College of Physicians postgraduate courses:

- Mar. 2-5 *Neurology for the Internist*, Rochester, Minn.
- Mar. 9-13 *The Physiologic Basis of Electrocardiography*, Salt Lake City
- Apr. 2-4 *Current Concepts in the Physiology of Respiration, Circulation, and Electrolytes*, Atlantic City, N. J.

Registration forms and requests for information on the above courses should be directed to: Edward C. Rosenow, Jr., M.D., Exec. Dir., The American College of Physicians, 4200 Pine Street, Philadelphia 4.

University of Kansas School of Medicine postgraduate courses:

- Feb. 24-25 *Vectorcardiography*
- Mar. 9-11 *Pediatrics*
- Mar. 16-19 *Surgery*
- Apr. 6-8 *Ophthalmology*
- Apr. 8-10 *Otorhinolaryngology*
- Apr. 13-15 *Anesthesiology*

For information on the above courses, contact The Department of Postgraduate Medical Education, University of Kansas School of Medicine, Rainbow Boulevard at 39th Street, Kansas City, Kansas.

University of Colorado postgraduate courses:

- Mar. 4-7 *Ocular Pathology*
- Mar. 16-21 *Medical Technology*
- Mar. 25-27 *Management of Trauma*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E 9th Ave., Denver.

- Mar. 16-28 *Laryngology and Bronchoesophagology*, Dept. of Otolaryngology, Univ. of Illinois College of Medicine, Chicago.
- Mar. 12-13 Symposia devoted to operative aspects of gynecology and obstetrics, Univ. of Oklahoma Medical Center. Write: Office of Postgraduate Education, Univ. of Oklahoma Medical Center, 801 N.E. 13th, Oklahoma City 4.

ELECTIVE COURSE IN RELIGION AND MEDICINE

Saturday mornings, 11:00 a.m.
University of Kansas Medical Center
March 7, 1964 through May 16, 1964

- Mar. 7 Introduction and Orientation—W. P. Williamson, M.D., K. U. Medical Center.
The Physician, The Clergy, and The Whole Man—Rev. Dr. Paul B. McCleave, Director, Department of Religion and Medicine, A.M.A.
- Mar. 14 Roman Catholic Viewpoint—Father J. M. Freeman, S.J., M.A., Rockhurst College.
- Mar. 21 Roman Catholic Viewpoint—Father Freeman.
- Mar. 28 Protestant Viewpoint—Dr. Robert Meneilly, D.D., Village Presbyterian Church.
- Apr. 4 Protestant Viewpoint—Dr. Meneilly.
- Apr. 11 Free
- Apr. 18 Jewish Viewpoint—Rabbi W. B. Silverman, M.H.L. The Temple, Congregation B'Nai Jehudah.

Apr. 25

May 2

May 9

May 16

Jewish Viewpoint—Rabbi Silverman.

Minority Denominations (Unity, Christian Science, Jehovah's Witness, Holiness, etc.)—Dr. Carl Bangs, B.D., Ph.D., St. Paul School of Theology.

Hospital Chaplains' Viewpoint—Rev. George Munding, Chaplain, K. U. Medical Center, and Father Norbert Lickteig, S.T.B., Chaplain, K. U. Medical Center.

Psychiatry and Religion—Dr. Paul W. Pruyser, Ph.D., The Menninger Foundation.

Open to all physicians, nurses, paramedical personnel or interested parties without formal enrollment.

Book Reviews

(Continued from page 93)

theory. In this introductory text, designed for undergraduate students, he attempts a broad survey of all major categories of abnormal behavior. Reference is made to many types of theory. Certain portions of the text show familiarity with the modern literature, while others sound almost Victorian. I fail to understand why asphasia is described in a chapter devoted to hysteria. This section of the chapter is followed by another, on cataplexy, with no mention of its relationship to narcolepsy. The chapter closes with a long quotation about the problems of Hollywood, designed to illustrate cultural factors, written by an anonymous author. Epilepsy is dealt with rather summarily in a chapter titled "Disintegration."

Many other portions provide better perspective, and most of the quotations from a broad literature are intriguing. This is a wide ranging text, written by an independent and literate professional, but it must be used cautiously and requires a good deal of clarification if it is to be used in the classroom.—*J.M.S.*

CHANGE OF ADDRESS

Please notify the Kansas Medical Society
of any changes in address

Help keep the mailing list up to date.



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Barrington, E. J. W. An introduction to general and comparative endocrinology. Clarendon, 1963.
- Bensley, E. H. and Joron, G. E. Handbook of treatment of acute poisoning. 3d ed. Williams & Wilkins, 1963.
- Berson, M. I. Atlas of plastic surgery. 2d ed. Grune & Stratton, 1963.
- Chromatographic reviews; progress in chromatography, electrophoresis and related methods. v. 5, Elsevier, 1963.
- Cruickshank, W. M., ed. Psychology of exceptional children and youth. 2d ed. Prentice-Hall, 1963.
- Eastman, N. J. Expectant motherhood. 4th ed. Little, Brown, 1963.
- Fasanella, R. M., ed. Modern advances in cataract surgery. Lippincott, 1963.
- Grollman, Arthur, ed. The functional pathology of disease. 2d ed. McGraw-Hill, 1963.
- Hogarth, James. The payment of the physician, some European comparisons. Pergamon, 1963.
- Ingram, V. M. The hemoglobins in genetics and evolution. Columbia University, 1963.
- Jordan, H. H. Orthopedic appliances. 2d ed. Thomas, 1963.
- Kraus, Hans. Therapeutic exercise. 2d ed. Thomas, 1963.
- Lamerton, L. F. and Fry, R. J. M., eds. Cell proliferation; a Guinness symposium . . . Davis, 1963.
- Langman, Jan. Medical embryology. Williams & Wilkins, 1963.
- Mayo Clinic, Rochester, Minn. Clinical examinations in neurology. By James A. Bastron and others. 2d ed. Saunders, 1963.
- Means, J. H. and others. The thyroid and its diseases. 3d ed. McGraw-Hill, 1963.
- Paterson, A. S. Electrical and drug treatments in psychiatry. Elsevier, 1963.
- Riseman, J. E. F. and Sagall, E. L. Cardiac arrhythmias. Macmillan, 1963.
- Russell, P. F. and others. Practical malarology. 2d ed. Oxford University Press, 1963.
- Ryan, R. E. and others. Synopsis of ear, nose, and throat diseases. 2d ed. Mosby, 1963.
- Sawrey, J. M. and Telford, C. W. Dynamics of mental health. Allyn & Bacon, 1963.
- Scharrer, Ernst and Scharrer, Berta. Neuroendocrinology. Columbia University, 1963.
- Schiff, Leon, ed. Diseases of the liver. Lippincott, 1963.
- Sherman, A. I. Cancer of the female reproductive organs. Mosby, 1963.
- Shirley, H. F. Pediatric psychiatry. Harvard University Press, 1963.
- Sirtori, Carlo and Morano, Ettore. Cancer of the uterus, from gross appearances to ultrastructure. 2d ed. Thomas, 1963.
- Smythies, J. R. Schizophrenia: chemistry, metabolism, and treatment. Thomas, 1963.
- Society for the Study of Development and Growth. Cytodifferentiation and macromolecular synthesis. Edited by Michael Locke. Academic, 1963.
- Stanier, R. Y. and others. The microbial world. 2d ed. Prentice-Hall, 1963.
- Strauss, M. B. and Welt, L. G., eds. Diseases of the kidney. Little, Brown, 1963.
- Symposium on Informational Macromolecules, Rutgers University, 1962. Informational macromolecules; proceedings. Academic, 1963.
- Tauber, Robert. Keys to successful surgery. Ungar, 1963.
- Truter, E. V. Thin film chromatography. Interscience, 1963.
- Van Cleave, C. D. Irradiation and the nervous system. Rowman & Littlefield, 1963.
- Webb, J. L. Enzyme and metabolic inhibitors. Academic, 1963.
- Williams, R. E. O. and Shooter, R. A., eds. Infection in hospitals. Davis, 1963.
- Wilson, J. R. Margin of safety. Doubleday, 1963.



SQUIRE S. BEVERLY, M.D.

Dr. Squire S. Beverly died on January 1, 1964, in Grand Rapids, Michigan, at the age of seventy-four.

Dr. Beverly was born on September 6, 1889. He was a graduate of the University of Michigan and the Chicago College of Medicine and Surgery, now known as Loyola University School of Medicine.

He was a veteran of both World Wars and for 38 years was associated with the Veterans Administration. A lieutenant-colonel in the Army reserves, he was a member of the Michigan Chapter of Retired Officers. He was a life member of the American Thoracic Society, and a fellow in the American College of Chest Physicians, and a member of other medical organizations.

He is survived by his wife.

JOHN N. SHERMAN, M.D.

Dr. John N. Sherman, 79, died on December 25, 1963, at Neosho Memorial Hospital in Chanute from burns suffered in a fire at his home.

Born on June 11, 1884, at Lafayette, Ohio, he was graduated from the University of Louisville Medical School in 1907. He practiced medicine in Knoxville, Tennessee, and moved to Thayer in 1916. In 1924 he moved to Chanute, where he practiced until his retirement in 1961.

During his medical career, Dr. Sherman served as Selective Service examiner during World War II, was the Santa Fe Railway doctor for several years, and area examiner for the Federal Aviation Agency. He served in the Medical Corps during the first World War and was a member of the American Legion, VFW, and civic and medical associations.

His wife and one son survive.

JAMES G. STEWART, M.D.

Dr. James G. Stewart, retired Topeka physician, died in a Topeka hospital on January 1, 1964. He was 83 years old.

He was born July 5, 1880, in Centerville, Ohio, and came to Topeka with his parents in 1886. In 1901 he enrolled in the first law class at Washburn College. Two years later he switched from law to medicine and graduated from the Kansas Medical College in Topeka in 1909. He began practicing medicine in Jewell County, but later returned to Topeka where he became associated with his brother and father. Dr. Stewart pioneered many medical techniques during his years of practice. He was one of the first in Kansas to use insulin for diabetes and acquired the first electrocardiograph for use in Topeka.

Active in civic affairs, after his retirement in 1950, he became the first director of the Shawnee County Guidance Center and was given the title of president emeritus. He was a member of the American College of Physicians, and various civic and medical societies.

Dr. Stewart is survived by his wife.

Maternal Mortality

This 22 year old white female, gravida 2 para 1 died in a small, fairly well equipped hospital after the spontaneous delivery of a live 7 pounds 5 ounce baby. The certificate diagnosis was "post partum hemorrhage, possible blood dyscrasia."

Two years previously she had had a tonsillectomy followed by some bleeding that was controlled by packing. No transfusion was necessary. One pregnancy and delivery four years previously was normal and uneventful.

Prenatal care in this present pregnancy was started at the third month and the course was normal. The labor on or about the expected date, was four hours long and was normal with a spontaneous delivery. Mild sedation was given during the first stage and drop ether on the delivery table. The placenta was delivered intact with fundal pressure. It is reported that more than average bleeding occurred before the patient left the delivery room. The attending physician who was the only doctor in town that night was called to the emergency room because of an accident case and was detained there for the next two hours. The patient was put to bed but she continued to bleed heavily. Her pulse became weak and her skin cold and moist. Ergotrate[®], adrenochem[®], two units of blood and intravenous premarin[®] were given within the next two hours but bleeding continued. Consultation was called and held four and a half hours after delivery, and a vaginal pack was inserted, but the bleeding continued. One more unit of blood was obtained from a town 28 miles away and given along with intravenous levophed[®] and glucose. The patient expired eight and one half hours after delivery.

Committee Opinion:

The committee felt that this death probably resulted as the result of a combination of the two following reasons:

1. Neglect in not thoroughly examining the birth canal for the source of the blood. This should be the first thing done in the presence of abnormal bleeding. Continued bleeding in spite of adequate blood replacement, normal coagulability and inability to find the source of the bleeding may indicate the need for hysterectomy.
2. Lack of sufficient concern for the abnormal amounts of uterine bleeding shortly after delivery of the placenta, and the reliance on oxytocics and other agents to stop the blood rather than the use of adequate amounts of blood replacement until the cause of the bleeding can be found and corrected.

It was the committee's opinion that this death was maternal, obstetrical and preventable.

Ergotrate—Eli Lilly & Co., Indianapolis, Indiana.
Adrenochem—S. E. Massengill Co., Bristol, Tennessee.
Premarin—Ayerst Laboratories, New York City.
Levophed—Winthrop Laboratories, New York City.

KANSAS STATE BOARD OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
 Summary of Cases Reported in October 1963 and 1962
 And Cumulative Totals for the First Ten Months of 1963 and 1962

<i>Diseases</i>	<i>October</i>			<i>January to October Inclusive</i>		
	1963	1962	5-Year Median 1958-1963	1963	1962	5-Year Median 1958-1963
Amebiasis	5	6	5	83	44	45
Aseptic meningitis	—	3	*	—	33	*
Brucellosis	—	1	3	6	14	43
Cancer	361	555	506	3,988	3,604	3,998
Diphtheria	—	—	—	—	—	—
Encephalitis, infectious	1	3	4	12	22	25
Gonorrhea	299	234	242	2,490	1,951	2,281
Hepatitis, infectious	24	15	24	219	394	249
Meningitis, meningococcal	—	1	1	11	13	12
Pertussis	3	—	3	67	37	44
Poliomyelitis	—	—	1	—	—	8
Rheumatic fever	—	2	—	—	10	3
Salmonellosis	40	260	38	238	300	78
Scarlet fever	4	20	21	288	435	435
Shigellosis	15	3	6	60	52	60
Streptococcal infections	162	84	84	1,237	1,065	1,065
Syphilis	120	106	109	923	990	1,053
Tinea Capitis	4	20	14	60	120	111
Tuberculosis	21	14	21	242	224	239
Tularemia	1	1	1	16	9	16
Typhoid fever	—	—	—	2	—	3

* Statistics on 5-Year Median not available.

MUSCLE TWITCHES

Rapid muscular twitches are nothing to be alarmed about in most cases—they apparently occur periodically in the majority of persons after age 19 and are not "an ominous prelude to a progressive lower motor neuron disease."

This is the conclusion drawn from a study of 539 healthy medical personnel, 379 (70 per cent) of whom reported having experienced benign muscle fasciculations (twitches). Drs. Dwayne M. Reed and Leonard T. Kurland of Bethesda, Md., reported that "over 90 per cent of those persons who could state an approximate age of onset . . . reported them occurring prior to age 30 years." Tension and fatigue usually were associated with the episodes, which, in 50 per cent, lasted for less than one minute. They occurred at intervals of greater than two months; only three of the 379 reported accompanying muscle cramps.

They point out that "benign fasciculations (at least in medical personnel) are a widespread phenomenon, and in the absence of other complaints or neurological signs, they should not be the basis for alarm nor [for] a diagnosis of a neurological disease."

REED, D. M., and KURLAND, L. T.,
 Muscle fasciculations in a healthy population, *Archives of Neurology* 9:51
 (October) 1963.

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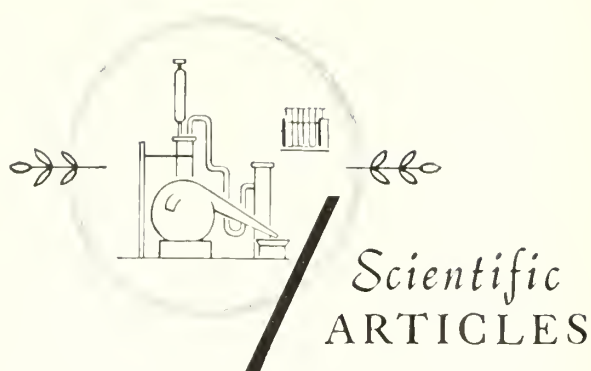
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This issue of the JOURNAL is the eighteenth to be designed as the KUMC issue, having been a regular feature for that many years. The Editorial Board is both pleased and proud to present this number to the physicians of the state, with assurance that it is filled with interesting, informative, and useful material.

As was true for the last few years, Dr. Jesse D. Rising of the faculty of KUMC, has assembled and edited the papers presented here. Those of us who have had anything to do with production of such special issues know that he has devoted a great deal of thought, time and effort, and for it all we are deeply appreciative.

Medical teaching is no longer a simple "class and teacher" experience, and in this volume you will learn much of interest about the changing methods of presenting material to our medical students. It is evidence that the medical school at Kansas City is not a static school, but is constantly striving to improve its methods.

To all those who have contributed articles we are deeply grateful, for each one has helped to make this another "tops" issue representative of the Medical School.



Goals of Teaching

Medical School for a Small Town in Western Kansas

C. ARDEN MILLER, M.D. *Kansas City, Kansas**

BY EVERY AVAILABLE MEASURE this state's medical school is large and still growing. Facilities, staff, enrollment, services, and budget are all increasing. Growth in these parameters, impressive as it may seem, tells little that is vital about this medical school, which is extraordinary in so many ways. In fact we are big only when measured against ourselves of a decade ago. When measured against the behemoths of American medical education, we are small.

There is a national foundation which brings to this country many foreign visitors with an interest in medical education. These visitors frequently are sent to Kansas so they can see a first-rate program carried out on a modest scale and in a small physical plant—similar to what a newly developed country might hope to achieve. I receive these visitors with some mixture of satisfaction, affront, and tolerance.

Size alone is not an adequate measure of our importance. There are matters of spirit, attitude, and emphasis, not easily measured, but vastly more important. On this occasion I wish to review with you three aspects of this medical school, ignoring for the present the statistics, and concentrating on intangibles.

The first aspect relates to the recent development of the medical school, analyzing the factors which changed it from an institution that was much loved

The complexities of a medical school and its relationship to the communities and people it serves. The University of Kansas serves a "small town in Western Kansas."

but unmistakably obscure to one of eminence. The second aspect deals with some major problems facing American medical schools, including this one. The third charts a course for coping with these problems and maintaining the surge of favorable influence in medical affairs exercised by this school.

American medical education carried on as a function of universities is new within the past 50 years. Dr. Francis Wood recently wrote of an earlier era as follows:

Daniel Drake, a century ago, stated that medical students were being recruited from those who were "too weakly to labor on a farm or in a work shop; or addicted to study, but too stupid for the Bar; or too immoral for the pulpit." There were more so-called physicians per capita in America than there have ever been anywhere (about one for every 300 to 500 people). During this period, the profession degenerated and America acquired a host of charlatans.

That era comes awfully close to the time frequently cited by an unknowing public as the good old days in American medicine. Physicians were available, if

* Dr. Miller is dean and director of the University of Kansas School of Medicine.

This address was delivered on the occasion of the Student Convocation at the School of Medicine on September 5, 1963.

little more. Their availability very likely brought new hazards to the sick and afflicted. Dr. Wood's quotation illustrates a point which will be a recurring theme in my report. There is the closest possible relationship between quality in medical education and quality in medical services provided in the same region.

The indifferent students who were attracted to medicine 100 years ago did not cause the sorry state of medical education or of medical practice; they were symptomatic of that state. The American Medical Association was founded in the midst of this era as an instrument of reform, as indeed it was. Not until major revisions of medical education occurred 50 years later did medicine begin attracting the best students.

The teaching hospital, university sponsorship, the full-time faculty, interplay between clinical medicine and the basic sciences, and the inquiring skepticism of research—all of these attracted eager and able students such as yourselves. Able students can stimulate a faculty so that everyone associated with a university can reach beyond ordinary expectations and achieve nobler heights than would have appeared possible. But good students don't come to a university, as to Mount Everest, just because it's there. They come because of a promise to fulfill dreams. This University holds out that promise, I believe, better than most. An analysis of why that is so may help us understand our successes.

Several influences have impressed me as crucial to the tradition of vitality in this Medical Center, and I speak only about the years of my own acquaintance. Earlier years saw other heroes and other influences. Impressive among them is inspired leadership. My predecessors in office provided this in abundance.

For 30 years Dr. Wahl, who knew what a good medical school ought to be, held this school together with little more than determination. Then, as now, there were gifted teachers in the medical school, but I suspect there was no one, either in the school or outside it, with the singleness of purpose and the unselfish dedication to medical education shown by Dr. Wahl. He did well a difficult job when few people had interest in how he did it.

He was followed by Dr. Franklin Murphy, who inspired public interest on behalf of medical education and its partner, improved health services. He convinced the people of Kansas that an expensive job needed to be done and was well worth doing.

Dr. Murphy was succeeded by Dr. Clarke Wescoe, now chancellor of the University, who nurtured this public interest and used it to build a great medical center.

There is no doubt that inspired and gifted leader-

ship played a major role in developing medical education which has benefited the people of Kansas during the past two decades. I make no secret of the fact that I live in awesome respect of these predecessors. I also make no secret of my belief that maturity of an institution brings new obligations of leadership to all persons associated with it. We are too big, and too important, to have institutional destinies shaped by the inspiration, the judgment, or the determination of one man. We owe a debt to leadership, but an educational institution is not a personality cult. We are the composite personality of all of our staff and students; we now have strength and depth of talent and leadership in any one department which exceeds that of the entire school some years ago.

I am not abrogating responsibility for the deanship; I am cautioning against any system which tends to characterize an entire institution by the image of one man. That man can make wheels run smoothly, he can set a tone, and possibly a style for an institution, but he cannot alone safely define objectives and destinies.

Universities are not democratic; they derive their authority from above (not necessarily divine guidance) rather than from a body of faculty or students below. Nevertheless, democratic objectives and mechanisms are followed within the limits of authority imposed by higher administrators. Though we owe a debt to inspired personal leadership, for the future I place my confidence for this or any other agency on group leadership.

A second factor for which we can thank our fortunes is the availability of local support, both moral and financial. The people of Kansas, through their Legislature and many private benefactors, have increased support for the medical center to meet the educational needs of this area in the health sciences. Support has not been openhanded, but it has been adequate. The total budget 20 years ago was several hundred thousand dollars; it is 13 million dollars for the coming year. Steady growth and increasing support have been an important part of our success formula. We have been spared the stifling effect of a single large increase in funding and subsequent indifference to growing needs. Only when the health of the people of Kansas is good enough, will our medical school be good enough or big enough. The people of Kansas have understood this philosophy and have responded to it.

Even so, appropriations account for less than half of our total budget; our own earnings account for a comparable amount; gifts and grants make up the difference, about 20 per cent.

Some medical schools derive as much as 80 per cent of their entire budgets from federal grants and contracts. I am glad that we are not one of them, even

though such financing has an old and noble tradition in medical education. Benjamin Franklin successfully negotiated a matching government grant in order to establish this country's first medical school.

There are people who fear more than I the influence of federal dollars. I do not see such support as part of a sinister plot. I do see it as support for something determined by people remote from our scene. What they are willing to support may not be what we wish to be. Disaster, not from external control, but from the poor planning which follows only where dollars lead, will result from such a scheme of financing. Disaster results, I believe, only when local funding is inadequate or curtailed.

A third element in our success story is a matter of emphasis. It is the concern felt by this school, which derives most of its support locally and admits most of its students locally, to be involved with local health problems. Is this not our reason for being? Our prime purpose is the improvement of the people's health by the device of education.

This attitude commonly finds expression in terms of the practitioner for the small town in western Kansas. It is a rare student, whether he be from Abilene or Amarillo, who does not regard testimonial to such an ambition as the open sesame to this medical school. I'm content with that expression, provided we don't sell short the small town in western Kansas. It needs a great many more things for good health than a family practitioner. I share with many the belief that the family practitioner is the bulwark for good medical care. I also believe that his is one of the most difficult jobs in medicine, and for that job he is not well prepared by a bob-tailed training. Whether this training comes in a packaged family practice residency, as offered in our own school, or as training in general medicine is a matter to be settled by the interests of the physician. The important issue is that he get the training.

Don't underestimate the health needs of the small town in western Kansas. Are they met by a well-trained family practitioner? Not entirely. The pediatrician, the surgeon, pathologist, radiologist, cardiologist, and other well-trained consultant specialists all may be necessary for good health regardless of where the patient lives.

A popular medical paradox is expressed by the man who in health cries for the services of the old family doctor and who in sickness insists on the attendance of the most expert specialists. He has a point; complete medical care requires the services of consultant specialists. It also requires nurses, social workers, psychologists, x-ray technologists, laboratory technicians, nutritionists, physical and occupational therapists, audiologists, speech therapists, and a whole host more of the health professions. The small town

in western Kansas needs as well all the benefits of modern medical research.

I have labored the point, but I hope it is established. There is nothing parochial about meeting local health needs. Who can point to a neighbor who is not deserving of the most complete health care? To provide it we must be a complete medical center, preparing students to fill many roles in the health professions.

Our close rapport with local health problems has enriched this school by fostering attitudes of service. Your faculty members cross the length and breadth of this state meeting with groups of doctors. The benefits are twofold. The growing edge of medical knowledge is brought to Kansas communities. The changing needs of the community are brought to us. Our teaching, investigations, and learning are conducted in a context of service. We are not a cloister for academic high priests and their functionaries. We are an instrument of social need, collectively and individually.

With this background contributing to an understanding of our own school, let us approach two developments frequently cited as major problems in American medicine. The first is the growth of research in medical schools; the second is specialization.

More than five years ago Franklin Murphy, then chancellor of the University of Kansas, spoke before the Association of American Medical Colleges in Philadelphia. At that time he sounded an alarm about the growth of research in our medical schools. He pointed out that while other academic programs are struggling to provide for increased enrollments, medical schools had not increased their enrollments substantially even in the face of a rapidly expanding population. His address was well documented with facts indicating that medical schools had grown enormously in physical facilities and faculties but that their growth had been largely as research institutions and not as educational centers.

His remarks were exceedingly unpopular with the deans and faculty members attending the meeting. They shook their heads and complained that Franklin Murphy had made "research" a dirty word. Now some years later Dr. Murphy's anxieties are being shared by others.

Let no one presume that our own research development is coming under adverse scrutiny. I am firmly convinced that an arbitrary separation between research and education is dangerous and foolish. As we grow in our educational programs we will need to grow more in our research activities. Learning from one's own observation is an essential ingredient of research; it is no less essential to the practicing physician, who may first learn it as a student in a setting of research.

If there is a danger in the growth of research, it

seems to me it lies in its mode of financing, which forces an artificial separation of teaching and research. No one can deny that a happy conspiracy has existed between the National Institutes of Health and the medical schools to support medical education in its broadest sense under the banner of research. This subterfuge is now causing difficulties and is in large part the basis for the concerns of the Congressional committee headed by Mr. Fountain. No one can deny that the explosion of knowledge resulting from intensified biological research of the past 20 years has benefited the health of every man and every community. No one can deny that medical schools constitute the most productive arena for the conduct of biological research. Institutes set up for research purposes, separated from students and the academic environment, invariably try to establish that environment. Research thrives where there are students to ask questions. Education thrives where there are men to seek answers. Research and education need each other.

Training schools perhaps can prepare students for a trade in the absence of research. Professional schools cannot. Our students are not learning a trade. No body of facts or skills is sufficient for a professional career. There must also be learning by observation and a constant freshening of knowledge and skills. These are qualities of mind generated only in an atmosphere of inquiry, as engendered by research.

If educational programs have suffered from the growth of research, if teachers are caught in full flight from the classroom or bedside to the laboratory, if buildings are vacated during the annual hegira to Atlantic City, it is not because research in medical schools is inappropriate but because research dollars have become necessary to underwrite the costs of educational programs. Deans and professors must work hard at garnering these dollars for their staffs, their students, and for the schools they serve.

We cherish the research programs at this medical school and we shall encourage them to grow, but we will not be caught on a treadmill of research financing. We wish for this school and for the entire country more emphasis on research in the social aspects of medicine. There are major problems in community medical services, and disease prevention. I have been disappointed that many community hospitals and clinics, after acquiring research foundations, have attempted to establish elaborate biochemical research programs as esoteric as any conducted in medical schools. Neglected are important opportunities to conduct research in community health and preventive medicine.

Our medical school will shortly undertake such research through its new Department of Community Health, working with preceptors and with a newly

established unit of Geographic Pathology and Environmental Health.

Our school stands as a good example of one which is not broken apart by the forced separation of education and research. We also stand as a good example of a school not torn by the dilemma of specialism. Little more than half of the physicians in this country are engaged in family practice, and the proportion is falling. We have already cited evidence that specialists are needed, and that there are strong professional satisfactions in a specialty career. What then are the objections to the rise of specialism? I think there are several.

The first is illustrated by a cartoon which appeared several years ago in a slick paper national magazine. The cartoon depicted the interior of an art museum and featured a late renaissance painting of monumental size. In the midst of classic ruins wild-eyed and lusty satyrs abducted guazily clad maidens who feigned distress but exercised none of their beefy brawn in protest. Rape and mayhem abounded. In the manner of such paintings, every inch of canvas was cluttered with fussy detail which included a small blue bird in the lower left corner. Seated in front of the painting, surrounded by tubes of pigment, easel, brushes, purse, umbrella, and overshoes, was a prim old lady. She was copying on a minuscule canvas only the blue bird.

Is this not the trouble with specialism? No one quite seems to get the big picture—and the big medical picture includes everything from lysogeny to lunacy. Specialists must be trained to relate their narrow interests to broad medical problems. And the well-trained family practitioner must utilize specialized services for the over-all best interests of some of his patients.

A second major objection to specialism is that a complete coterie of specialists cannot be established in every community. They congregate in population centers which serve a much larger area than that tended by the isolated family practitioner.

Fifteen years ago Dr. Murphy could speak realistically of a practitioner for every small town and a Hill-Burton hospital for every county seat. That formula went a long way toward meeting the health problems of the day; and the people of Kansas, working through their medical school and state medical society, saw the formula find nearly complete application. Today there is talk of converting some of the small Hill-Burton hospitals to nursing homes, and many of the small communities, long accustomed to at least one practitioner, now have none—although 20 minutes away over hard-topped highways there is a group of physicians or a modern medical clinic providing extensive health services.

The pattern for rendering health services is changing, but not by the application of any grand design. Change results from pressures and the response they evoke—pressures of a public which knows in a highly sophisticated way what comprises complete medical care and responses of young physicians, dedicated to providing that care, who recognize that one man does not carry it all under his hat and in his black bag. A decade ago the Rural Health Plan was an inspired solution to a state's health problems. The state is changing and so are the health problems. Fortunately the Rural Health Plan, which perhaps now should be called the Kansas Health Plan, is changing too. It is too good not to change; it deserves a better fate than to become a quaint anachronism.

Kansas is becoming more urban centered. I quote from a recent newspaper report on the latest census: "Gains (in population for Kansas) were recorded in 46 of the 105 counties, while the remainder lost population. Part of the loss was accounted for by the migration to the more populous cities and counties, and the breaking up of family-type farms, officials said."

Communities of large and moderate size are growing; many small communities are getting smaller and in some instances becoming abandoned altogether.

To serve this shifting population better, groups of physicians work together and serve a larger area and more people than they served a number of years ago. Even so, residents of the farm or small town may have medical services more readily available over open highways than the suburbanite has over congested city streets.

Even if complete medical services are available in every region of the state, and even if families are helped to receive comprehensive care through the services of family practitioners, there is still something lacking. The lack ordinarily finds expression from the public in lamentations about the decline of the house call. That homey comfort passed for a good reason; complete medical care cannot be rendered in the back bedroom. It is rendered with difficulty in the doctor's office. The hospital or clinic increasingly becomes the principal locus for medical services. Yet something important is lost when a patient is seen only against the hospital sheets, rather than against his background of home and family. What is lost is a matter of personal solicitude as far as the patient is concerned and a matter of medical importance as far as the doctor is concerned. Is there flaking paint on the walls, is there an abandoned chicken coop where children play, is grandmother given only a television set with her dinner or is she given loving attention as well? All of these things are medically important. They may be elicited by careful history, if one suspects what questions to ask. A look at the pa-

tient's environment may raise appropriate suspicions which lead to the right questions.

Rather than abandon this important aspect of medical care let us examine new ways to provide it. An important opportunity is being overlooked. In many areas today's well trained nurse, working in local health departments and Visiting Nurses Associations, renders services previously provided by the family practitioner. She does not practice medicine; she does not replace the doctor. She works constantly under his supervision and extends his services to more people and to a broader area. She does some preliminary screening of patients, she provides some routine follow-up care, she makes home visits, she guides and gives much of the routine prophylaxis and instruction in preventive medicine. Her services tend to be concentrated on the lower socio-economic groups of metropolitan areas. Why the patient of every economic circumstance and in communities of every size should be deprived of her valuable services I fail to understand.

Such a nurse, I believe, has a valuable role to fill in the Kansas Health Plan. Perhaps the nurse in the doctor's office already does more than we know. I should like to see a good study of her role as a purveyor of health services. We may be a short step from providing her with more careful supervision and the keys to the clinic car.

This brings me to my closing theme—a course for the future. From previous discussion several readings will guide us.

1. Continuing need for family practitioners. Medical schools cannot completely dismiss the growing trend toward specialism as response to a social need. Among causative factors is the feeling of students that a career which narrows the field of endeavor is easier to master than one which seems to encompass all of medicine. Students are afraid to make mistakes, thankfully. And to avoid them, expertness may be sought over a limited area.

Another important factor affecting interest in general practice is confusion about the training program. Clear avenues are open to the student who follows training in a specialty. Although we all preach that the prospective family practitioner needs training beyond the internship, we do not agree on what that training should be. This doubt might encourage the selection of a specialty career. I for one would have confidence that a young medical graduate intent on a career as a family practitioner could formulate his own training program according to his own interests and awareness of local needs. He is assisted by a family practice residency which schedules a reasonable training program at this institution and several others. Such programs need renewed emphasis.

2. Adequate and reasonable distribution of *all* the

health professions in Kansas. Young physicians can only rarely be induced to isolate themselves from colleagues they know to be necessary for complete medical care. Regional health centers are developing rapidly. They demand an increasing number of well trained professional personnel. We must help provide them.

3. Research in community health and preventive medicine. The Kansas Medical Society has asked for help in studying community health needs and resources. We must provide it through mechanisms already discussed.

4. Increased emphasis on coordination of health services. A number of years ago there was one health profession, then two, and now more than fifty. A physician today takes care of more patients, giving them better care than was true 30 years ago. He is able to do this in large part because he is assisted by other health professions. Smooth professional interrelationships are required for such team work. Educational institutions are in large part responsible for the ease, or lack of it, with which one health profession works with another. Any educational system which preserves a disciplinary isolationism provides its graduates with blinders to the important contributions that can be made by others—and the public suffers. Our educational objectives increasingly must be to strip away blinders, not to add new ones.

In conclusion we can express our interests as follows: We are a medical school, well built, well equipped, and well staffed, prepared to assist able students in the fulfillment of their dreams of science and service; we are motivated by institutional and personal involvement in the health problems of the communities we serve. Whether we be involved as generalists, specialists, administrators, investigators, teachers, or students we relate our efforts to the medical needs of our society. And we cherish a broad interpretation of those needs.

What happens among military and political leaders on a small island in the Caribbean can affect the well-being of a small town in western Kansas. A short drive in the Kansas countryside will reveal the Nike bases and confirm what I say. Medical developments in all parts of the world also are reflected in the small town in western Kansas. We seek to establish new patterns of medical service so that the best that is known of medical care and preservation of health is brought with dignity and comfort to every person who looks to us for guidance in these matters. We enjoy modest success at these endeavors; we look forward to a great deal more.

May you have a most productive and satisfying year. We are at your service and shall find satisfaction in facilitating your achievements, now and always.

THE KANSAS MEDICAL SOCIETY

Annual Meeting

May 4, 5 & 6, 1964

Topeka

Plan Now to Attend

A Million Dollar Goal

Fund for Distinguished Medical Teaching

RAYMOND D. PRUITT, M.D., *Houston, Texas and*

STANLEY LEARNED, *Bartlesville, Oklahoma*

Introduction

ALUMNI LEADERS AND FRIENDS of the University of Kansas Medical Center met several months ago to hear progress reports on a campaign to raise one million dollars as a permanent endowment in support of distinguished teachers of the basic medical sciences at the Medical Center.

This campaign, recognizing the establishment of the University nearly 100 years ago, was described previously in the pages of this JOURNAL. Many friends of the University, learning of the objectives of the drive, responded generously and indicated plans to contribute annual gifts until the fund is established.

One alumnus of the School of Medicine and one alumnus of the University addressed the progress meeting. They displayed such genuine enthusiasm for their roles in the campaign that they inspired participation by all who heard them. The medical alumnus was Dr. Raymond D. Pruitt, '39, chairman of the Department of Internal Medicine at Baylor University College of Medicine, Houston. The other speaker was Mr. Stanley Learned, president of Phillips Petroleum Company, Bartlesville.

Dr. Pruitt outlined the WHY of the campaign, using a two-pronged approach. He first stressed advantages accruing to an institution having access to such funds; he then built a strong case for physician participation. His convincing argument for participation had its roots in the philosophy that made famous the name of Mayo. The concept provides that a physician should return to the sick any resources received for services to the sick that are in excess of his needs. Dr. Pruitt's development of this theme showed that its application is as practical and desirable today as it was in 1894.

Mr. Learned employed the businessman's approach to a business problem when he discussed the HOW of the campaign. He outlined plans for initiating a fund drive and following through. His experience in a civic venture and in working for the Greater University Fund lent authority to his comments.

Because we heartily endorse the sentiments of both

speakers, and because we feel that physicians throughout the state will be interested in their comments, we feel that their talks are particularly appropriate for this, the 1964 University of Kansas Medical Center issue of the JOURNAL.

Why a Fund for Distinguished Medical Teaching?

RAYMOND D. PRUITT, M.D.

In reflecting upon what I might say to you this morning, I reviewed certain materials Dr. Miller had sent to me during the past year. Again I was impressed with the eloquence with which this campaign has been presented. What could I add to develop any new insights, any conceivable inspiration, in this magnificent undertaking?

I have fallen back on that device speakers and writers often employ—I have assembled comments derived from events and reflections peculiar to my own experience rather than to the background which is common to all of us, the University of Kansas School of Medicine. During the first 19 years after I left medical school, I was in Rochester, Minnesota, associated with the Mayo Clinic and Mayo Foundation. I am sure that the imprint of those years is very much upon me, just as I think that the experiences of the past five years are indelibly imprinted upon my mind. Out of these experiences let me convey an account of matters pertinent to this University of Kansas program in behalf of distinguished medical teaching.

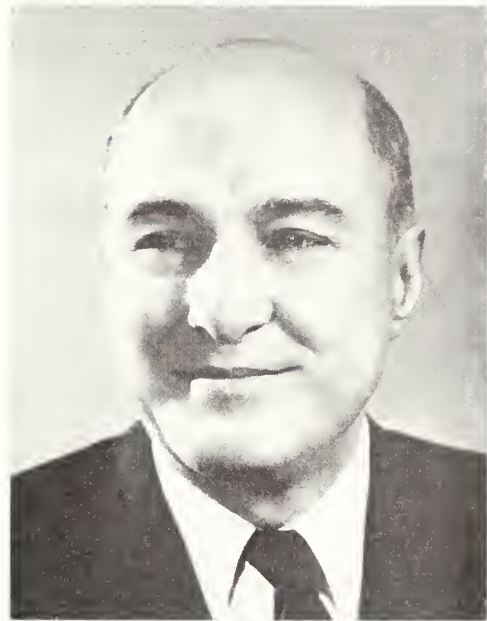
Why this concern for having funds which are a bit different in character from those which come through ordinary channels? Is it important that some fund does not originate from the usual institution sources—legislative appropriations, private gifts to the budget of the entire school, or grants? What difference do these matters make from the point of view of one who holds the position I hold, chairman of the Department of Medicine? Specifically, does the source of funds make a difference in recruiting outstanding people to the faculty of the Department of Medicine? Answers to these questions are what you



Raymond D. Pruitt, M.D.

Dr. Pruitt is known by reputation, if not in person, by most members of the Kansas Medical Society. He is in constant demand as a speaker at medical meetings, and he has received recognition from a large number of accrediting boards, professional organizations, and publications.

He received a B.S. degree from Baker University in 1933 but did not enter the University of Kansas School of Medicine until he had won a B.A. degree from Oxford University, attending as a Rhodes Scholar. His year of internship at the University of Kansas Medical Center was followed by 19 years in Rochester and Minneapolis, Minnesota. There he progressed from Fellow in Medicine at the Mayo Foundation through various academic assignments until he became a full professor and an associate director of the Foundation. He served concurrently as Chief of Medicine for Medical Education for the Foundation and the Graduate School of the University of Minnesota. He has held his present position as chairman of the Department of Medicine, Baylor University College of Medicine since 1959.



Stanley Learned

Stanley Learned, president of Phillips Petroleum Company, is a Kansan who has remained loyal to his school through the years. He served as president of the K.U. Alumni Association in 1962-63 and as chairman of the Advisory Board of the Greater University Fund in 1958-59.

After graduation from the Lawrence High School, he entered the University of Kansas. There he received prompt recognition from faculty and student body alike, winning academic honors and various student offices, including the presidency of the student council. He received a B.S. degree in civil engineering in 1924 and completed work for the degree of Civil Engineer in 1936.

With Phillips he has held positions of progressive responsibility, advancing from chief engineer status to assistant manager of the products pipeline department in 1940. Soon afterward he was made manager of the defense plant engineering division, and in that position was in charge of constructing the Butadiene plant built near Borger, Texas, as part of the government's wartime synthetic rubber program.

Advancement to top company executive responsibilities began in 1944, when he was appointed vice chairman of Phillips operating committee. In 1949 he was elected a vice president, director, and member of the executive committee, in 1951 was advanced to executive vice president, and in 1962 became president of the company.

are interested in, and I can assure you that I am interested also. For surely we can agree that we must have the right people if we are to build a great university and a great college of medicine. Equally obvious is a corollary: to assemble and hold that high-grade faculty, adequate financing is essential.

Last year a foundation in Houston, on a more or less experimental basis, placed a generous sum of money in the hands of the chairmen of the Departments of Surgery and of Medicine. We were told by the foundation that no strings were attached—we could use the money as we saw fit.

This was fine! I admit, however, that my pleasure was tempered by a sense of obligation to use the fund imaginatively. We are happy with what we've accomplished. I'll give examples.

We have a fine rehabilitation institute, and although we are not trying to set up a clinical empire, we have urgent need for the services of an internist trained in the field of rheumatology; it is part of our institutional obligation to find such a man. Such people are scarce. We finally located the man we felt was just right, but he is in England. We got everything regarding his academic appointment cleared to the point of bringing him and his family to this country. Had we not had our special fund for faculty recruitment, somehow we would have dredged up some dollars for his transportation; we wouldn't have permitted our plan to be frustrated at this late point. But the knowledge we had \$2,000 to use for this extraordinary expense was a source of satisfaction and assurance to me and to all others concerned.

Again, we are also searching for a young man highly qualified in the field of infectious diseases, and we located one who was training in one of the best programs in the country. We needed funds to bring him to our institution; we want to observe him, and he must establish a wish to stay and competence to do what we are confident he can do. To carry him through his initial period, a sum of \$7,000, in addition to funds readily available from other sources, was needed. This amount can be derived from our special fund for faculty recruitment. In a year or two, if such is our candidate's wish and our aim, support for this man almost certainly can be derived from one of the extramural programs providing long-term salary support for competent investigators.

The third illustration concerns a man in our department who went through a regular program of training in internal medicine and then had two years of military duty. He had only modest training in the subspecialty of hematology. He has shown absolute loyalty and commitment to the aims of our program and our department, and we want to keep him. However, if he is going to make a career of academic

medicine, he needs to have highly specialized training for at least a year. His record would not win him a senior type of research fellowship adequate to his needs during this year of training. So we will take the amount of partial support the fellowship will provide and supplement it with an additional sum, possibly \$5,000, from our special fund. That we would select a man of 35 years and encourage him to follow a course of study designed to produce a good academician may seem ridiculous. But competition is keen, and forces for advancement are compelling; we must explore every avenue for finding the right people and for keeping them on our faculty.

These examples suggest what fluid funds can do in the all-important field of recruiting academic personnel. Recognition of the value of money is nothing new, nor is knowledge of dangers inherent in excessive dependence on rigidly fixed sources of funds. I am sure Dean Miller is grateful that his School of Medicine is supported from a variety of sources, several of which are of a highly reliable, predictable type. The college of medicine with which I am affiliated enjoys the same type of financial background. Sources of funds may not be altogether adequate, but at least they are varied. Nonetheless, addition to these sources of one so uniquely desirable as that represented in the program for Distinguished Teaching in Medicine would be a splendid and fortunate achievement in any medical school.

Recently I came upon a statement by Robert Frost which enforces this point on sources of funds. Frost, in a letter to his friend Louis Untermeyer, said,*

I have been taught to think that there is no greater peril than to cultivate no greatness except in politicians and statesmen. I should hate it to have all patronage of the arts (we might add "and of the sciences") come from one source. If I can't get it from the Library of Congress or the White House or from the Pulitzer Committee I can appeal from them to publisher after publisher, editor after editor, braving poverty for myself and children till the society for prevention of cruelty to minors catches up with me and I am dragged into court to justify my sacrifice by a show-down of unpublished manuscript. In my destitution I should be assigned a lawyer to defend me and if I lost assigned a professor to cure me of not knowing how to write. Even that wouldn't exhaust my chances. I might get to Bread Loaf** on a scholarship.

Now, what is the role of the physician in providing critically important funds for distinguished medical teaching? Those of us who are clinically oriented and are carefully observing the progress of medical

* Portion of a Robert Frost letter from THE LETTERS OF ROBERT FROST TO LOUIS UNTERMAYER reprinted by permission of Holt, Rinehart and Winston, Inc.

** Bread Loaf, located in Vermont, is a writers' school Frost helped to found.

education are concerned that many people in these United States view research with an attitude close to adoration. Certainly research is a wonderful thing. But its support, which ties in inextricably with support of medical education, should not be dominated by forces totally outside the medical school. If the dean of a medical school and his academic council are not in a position to direct the course of medical education, then they are in the deplorable circumstance of bearing full responsibility without possession of reasonable authority and control. Surely, we could share in deep concern for the future of such an academic enterprise.

May I recount my convictions on this dilemma of the role of research in an institution traditionally bearing responsibility for producing the finest of professional servants?

—I believe in both the gospel of service and the necessity for research.

—I believe we must produce both supremely good clinicians and supremely good investigators.

—I believe the likelihood of our accomplishing both ends resides in resisting neither and supporting both.

—I believe that the medical profession and the medical profession alone can provide funds sufficient for preserving a free, open, and altogether salutary competition between the forces in support of clinical service and those dedicated to research.

Why?

—Because the physician is peculiarly qualified to understand the need for this balance.

—Because the physician is uniquely and inescapably indebted to the institution in which this balance must be preserved.

—Because the physician is a member of a professional group affluent in a degree sufficient to permit him to meet the financial challenge with his gifts and yet maintain a reasonable measure of financial security and comfortable living for himself and his family.

As a meditation on our role as physicians in the cause of distinguished medical teaching, I should like to draw upon experiences of my years in Rochester and relate to you some excerpts from an informal address made by Dr. Will Mayo in 1938, a year before his death. In these comments, which were sound recorded and are preserved along with a movie of the event, Dr. Will tells how he and his brother, Charles, came to make what I regard as one of the greatest gifts ever presented to medical education and research—the establishment of the Mayo Foundation. Dr. Will said:*

Our father* recognized certain definite social obligations. He believed that any man who had better opportunity than others, greater strength of mind, body or character, owed something to those who had not been so provided; that is, that the important thing in life is not to accomplish for one's self alone but for each to carry his share of the collective responsibility. My brother and I had exceptional opportunity. We entered medical practice during the early period of development of asepsis and antisepsis in surgery which had come through the work of Pasteur and Lister. Our opportunity was indeed unique.

In 1894, having paid for our homes and started a modest life insurance program, we decided upon a plan whereby we could eventually do something worthwhile for the sick. This plan was to put aside from our earnings any sums in excess of what might be called a reasonable return for the work we accomplished. It seemed to us then, as now, that personal accumulations of moneys over and above the amount necessary to provide favorable conditions for work and to assure reasonable protection for our families, would interfere seriously with the object that we had in view.

Contented industry is the mainspring of human happiness. Money is likely to encourage waste of time, changing of objectives in life, living under circumstances which put one out of touch with those who have been lifelong friends who perhaps have been less fortunate. How many families have we seen ruined by money which has taken away from the younger members a desire to labor and achieve and has introduced elements into their lives whereby instead of being useful citizens they have become wasteful and sometimes profligate?

Year by year more young physicians applied for positions as assistants and interns in the hospitals. The need of providing some better form of graduate medical education for these earnest young men soon became apparent.

It seemed to my brother and me that the crowning endeavor of a life in medicine would be to aid in the development of medical education and research. The fund we had built up, and which had grown far beyond our expectations, had come from the sick, and we believed that it ought to be returned to the sick in the form of advanced medical education which would develop better trained physicians and to research to reduce the amount of sickness. My brother and I came to the conclusion that this purpose could best be accomplished through the state university. We gave to the University of Minnesota a million and a half dollars, which was the entire fund we had been able to accumulate up to that time, to establish a foundation for medical education and research.

In the 25 years since the affiliation was established, the same method of development and endowment has been carried out, and the accumulated fund is now a sum far beyond our fondest hopes. The people's money,

* From the "Twenty-fifth Anniversary of the Mayo Foundation for Medical Education and Research" Commemorative Brochure, copyrighted by the Mayo Foundation for Medical Education and Research, 1941, pp. 31-34.

* Dr. William Worrall Mayo, pioneer physician in the Rochester community.

of which we have been the moral custodians, was irrevocably returned to the people from whom it came.

In reading this statement to you, I have felt the inspiration of it, just as I did when first I read it 23 years ago. In it, a great man revealed his commitment to what he believed was right—his dedication to his highest ideal. He was totally sincere and he was remarkably wise.

I recognize that we of today's generation of physicians aren't going to accumulate a million and a half dollars no matter how many years we practice medicine. Times have changed. The amounts we can give are not of the same order as the gifts of successful physicians in the day of Dr. Will and Dr. Charles Mayo. But we can accept their idealism. We can accept their commitment to return to the sick, in the form of medical education and research, those funds we derive from care of the sick, at least in so far as those sums exceed our fundamental needs.

It's a real pleasure to be with you. I'm always delighted to come back to this state and to this campus, to have the opportunity to see both you who were here when I was here and you who were not. Thank you.

Stimulating Interest in the Fund

STANLEY LEARNED

I don't know why Dean Miller would call on a displaced engineer to speak before a group of doctors, but I am here because he invited me. Perhaps, by explaining my interest in fund raising, I can drive home two or three points and stimulate more enthusiasm for the campaign you are now undertaking.

It was almost ten years ago that I first became a member of the Greater University Fund Board of Trustees. Little did I realize the full value of a dollar contributed to the University—how that dollar could produce more when used by the University than by the organizations to which my former contributions had gone.

The two persons who had the greatest influence on my change of attitude are members of your profession. I refer to the then Chancellor, Franklin Murphy, and our present Chancellor, Clarke Wescoe. As they cited the benefits of money they received, in small and large quantities, I gradually became convinced that we must give more to the education of the young if we expect this great country of ours to grow in the future as it has in the past.

During the last eight or ten years I've had an opportunity to spend a little time around the University because of this interest in fund raising, and I've de-

cided that there are three groups which determine the reputation of an educational institution—the alumni, the faculty, and the students. And I believe the third class depends almost entirely on the first two.

You gentlemen know the type of persons who make up the alumni association of your portion of this University—the medical group. Most of you are familiar with the quality of your present faculty. The ability to keep this type of faculty and to attract desirable additions in the future depends on the ability to supply the little extras not provided by the standard rates of the University pay scale. The program you have adopted to raise a million dollars for the creation of distinguished professorships in the School of Medicine is one of the greatest things you could do to assure the school's fine reputation and to make it even more illustrious.

I give credit to Franklin Murphy for arousing my interest and encouraging me to decide that I, along with my wife, should create a professorship in the School of Engineering. Just as you have an interest in your branch of the school, I have an interest in the engineering department of this University. And, although I had no boys who might attend that school, I hope to have at least one grandson to study there.

Raising money for a worthy cause such as yours is really very simple if you follow the plan we adopted for the Greater University Fund some five or six years ago. I was familiar with it because we had had the same plan in my little home town of Bartlesville, Oklahoma, a year or so before that. The plan is built around personal contact—seeing that everyone who might contribute is approached and being certain that every worker has a limited and reasonable number of alumni members to solicit. Our plan is set up so that one individual solicits from not more than six persons, and he reports to another individual who receives reports from no more than six persons. This illustration from my home town proves that the plan works. Ninety-seven per cent of our alumni there contributed to the Greater University Fund last year.

I am confident the plan can be used as effectively with physicians, not only those in Kansas but also those scattered throughout the United States. You'll be surprised, and enormously pleased, when you get into the campaign and learn that a greater loyalty exists than you'd ever imagined.

Occasionally workers on a fund drive have to listen to complaints. The normal response of a person who is a little slow to give is an explanation of his reasons for not liking his alma mater or his dissatisfaction with something someone there has done. The good solicitor then becomes a good listener. Those in your

profession have already acquired this ability, so that will cause you no difficulty.

Those of you who have an active part in this campaign will take satisfaction in the knowledge that the work itself is a personal contribution to the University. I can assure you that you'll get more out of it than you put into it. I spent a relatively small amount of time at work for the Greater University Fund, but I gained much more than that time could possibly have cost me.

I hope that all of you will take part in this program, and I wish you Godspeed in reaching your million dollar goal. I'm sure that as the years go by you will see some terrific results not only to the University of Kansas School of Medicine but to you as individuals.

NEW BOOKLET: HEART DISEASE AND PREGNANCY

The high probability of a young woman with heart disease or defect safely bearing children is emphasized in a newly-revised booklet, "Heart Disease and Pregnancy," which is available from the Kansas Heart Association.

Special problems of heart disease in pregnancy are described in the free, 20-page booklet, which also offers suggestions to make child bearing for the woman with a heart condition safer and easier. The publication was prepared by the American Heart Association.

In addition to distribution to patients by their physicians, the booklet also is recommended for prenatal clinics, public health and visiting nurses, marriage counselors, family service and other social service organizations and clergymen.

Pointing out that the heart must work harder during pregnancy to pump blood to the growing baby as well as the mother, the publication recommends that women with a heart condition consult their physicians before undertaking pregnancy. The physician, it says, can determine if undue risk is involved, leaving the final decision to the prospective parents.

"If you are a young woman with heart disease, the chances are good that you can have a baby," the booklet states.

The publication stresses the importance of proper medical supervision throughout and points out that medicine today is better equipped than ever before to care for pregnant women with heart disease. Availability of better methods of evaluation and treatment of cardiovascular diseases in general is stressed and it is noted that surgical advances can improve or com-

pletely correct many inborn heart defects which might otherwise preclude child bearing. The booklet also says that, while surgery is available to correct heart damage resulting from rheumatic fever, such a step is not always necessary or desirable.

Also included in the publication are fourteen frequently asked questions and answers in a section headed, "What Women Want to Know about Heart Disease and Pregnancy." Samples are:

"Will my baby inherit heart disease?" Answer: "It is most unlikely. There is no evidence that most heart disease is inherited. . . ."

"Will my baby have to be born by Caesarean section?" Answer: "No. . . . There is every likelihood that your baby will be delivered normally."

Other questions and answers touch on the possibility of worsening heart disease, size of family, prenatal and postnatal care, special diets and other subjects.

Topics in the booklet are headed, "Planning Your Pregnancy, Murmurs and Heart Disease, The Future Care of Your Children, Changes in the Heart and Circulation, Rheumatic Fever Attacks Can Be Prevented, Congenital Heart Defects, Hypertension, What Women Want to Know about Heart Disease and Pregnancy (the questions and answers mentioned above) and Three Rules That Every Woman with Heart Disease Should Heed."

The booklet recommends that a young women with heart disease who is planning to be married first discuss her condition with her future husband and her doctor.

"Don't take chances with your happiness by hiding the fact that you have heart disease," it states. "If you both want children, plan together for the care you will need *before and after* as well as at the time of childbirth."

Physicians and others may request single copies or a supply of the booklet by writing Kansas Heart Association, 2941 Fremont, Topeka, Kansas 66605.

**USE YOUR MEDICAL
LIBRARIES**

**YOUR LIBRARIAN WILL BE
HAPPY TO ASSIST YOU**

Students and Home Care

An Educational Program in Preventive Medicine and Community Health

CHARLES SISK, M.D., MAUD ADAMS,

HAZEL PARRY, and HESTER THURSTON, *Kansas City, Kansas**

MANY CHANGES ARE occurring both in medical care and in the approach to educating professional people for providing that care in the future. Social phenomena, such as the increasing number of patients with chronic disease, the climbing cost of hospital care, the complexity of health and social needs, and the wide range of community services which are fragmented and not easily secured are effecting the demands for health care.

Education of doctors and paramedical personnel has been largely provided within the hospital with facilities for acute care. Interest has developed in progressive patient care which provides continued medical supervision for patients who no longer need hospital facilities but who do need help in rehabilitation. The faculty at the University of Kansas Medical Center felt the need of a program whereby students could have experience in comprehensive medical care, observation of coordinated services, and continuity of responsibility of patients in the home and community.

In July, 1963, Dr. Charles Lewis, professor and chairman of Preventive Medicine and Community Health, was granted money from the United States Public Health Service to set up a University-based demonstration study unit in home care and community health. The major goal is to provide an opportunity to train personnel in medical and paramedical disciplines by involving them as team members in family-centered health care, research and a coordinated community health program.

The program, organized as an extension of the out-patient department provides a continuum of care for approximately 50 to 60 patients from the Medical Center in-patient services or out-patient clinics. Patients considered for the program are chosen on the basis of certain criteria which include need of multi-disciplinary care, appropriate distance from the hospital, and in some instances, a responsible family member to provide certain elements of care.

The home care and community health study unit is located in a small, white bungalow on 39th Street across from the main campus of the University of

Kansas Medical Center. The staff of this facility consists of one full-time physician, Dr. Charles Sisk; three part-time physicians, Drs. Charles Lewis, David Waxman and Jack Walker; two public health nurses, Miss Maud Adams and Mrs. Elizabeth Zimmerman; three nurses with special pediatric, obstetrical and medical orientation, Mrs. Mary Ann Lewis, Mrs.

Experiments with home care by first year medical students, nurses and related groups have given students a new concept of the patients as persons, rather than "sets of symptoms," and have proved a useful addition to teaching plans.

Barbara Clancy and Mrs. Hester Thurston; a physical therapist, Mrs. Tinker Frederick; an occupational therapist, Mrs. Laverna Wallace; a social worker, Mrs. Faye Weston; and a dietitian, Miss Hazel Parry.

One of the largest rooms serves many purposes, such as a room for staff conferences, classes, seminars, and a work space for the students. The offices of the nursing instructors, dietitian, social worker and medical director surround the multi-purpose room, making these consultants readily available both to the students and each other.

Provision has been made for the use and continuation of the medical records of each patient admitted to home care. Hospital records are transferred to the unit and kept in a locked file and are under the supervision of the medical director. The record of home visits is maintained separately. Records are not permitted to leave the building unless a patient on the home care program is readmitted to the hospital. Then, all records are compiled and transferred to the unit in the Medical Center to which the patient is admitted.

Fees for home visits are charged on a weekly basis according to the hospital classification, the frequency of visits, and the number of disciplines involved. The family is responsible for payment of laboratory work, medications and supplies not provided by other agencies.

* Home Care and Community Health Study Unit, University of Kansas Medical Center.

Study and research in the team approach to patient care is conducted with patient service as a necessary adjunct, but service is not the primary goal. The staff provides service as necessary, including visits with students and coverage during holiday, vacation and weekend periods.

The home care and community health project is a dual program not restricted to the aged and chronically ill, but includes selected patients of all ages. Home care participants include all the staff and students, whereas the medical students are not currently involved in the community health portion of the program.

In the home care unit, first year medical students select a patient from a group of five representing deviations from the normal physiology which they are studying in their basic science program. Patients are visited weekly by the medical students, accompanied by a staff member or nursing students. More frequent visits may be made at the discretion of the group and on the student's free time. The discussion following each home visit encourages dynamic learning within the small, informal group.

The community health aspect of the home care and community health program involves patients requiring services of fewer disciplines and represent comparatively simpler problems than the complicated problems of the patients in home care. Rotation through the home care study is an essential portion of the nursing student's laboratory experience in community health.

Although only medical and nursing students are presently participating in the comprehensive family and community centered demonstration unit, plans are in progress to include other students. These will include students who are majoring in nutrition and dietetics, physical and occupational therapy, and dentistry. Through the demonstration unit, opportunity is afforded students in the various medical and paramedical fields to practice realistically their skills and knowledges within the patient's normal environment; that is, the patient in his home with the support of the family and his accustomed surroundings. Such an approach emphasizes active rehabilitation of the individual, involves the family, eliminates or decreases repeated hospitalization, and fosters independency by meeting medical and social needs.

The question is asked, "What has the staff in such a demonstration unit learned from the multidiscipline approach to family-community-centered patient care?" First of all, the approach has merit. This is indicated by the active participation of the students and their continual search for answers in meeting the problems presented by the assigned patients. The students are the best promoters for this experience and are undoubtedly responsible for the many requests for assignment to the demonstration unit. The repeated

amazement and dismay that students display when they discover more about patients as people, not as pathological anonymities in terms of signs, symptoms, laboratory findings and complaints, suggests that health care becomes truly patient-centered. An early opportunity is afforded the student to see and understand the impact of illness on the patient, his family and in some instances, the community. Students do not remain detached from the problems but seek help from occupational and physical therapy, social services and the community resources for the promotion of the patient's health and family welfare. The staff has also learned that this approach does emphasize the sharing of information and services so that care does not become fragmented. The patient continues to feel that each of the paramedical groups is vitally interested in him as a person and not just a health problem.

The realization that members of the paramedical team may be experts in their particular area of study is indicated by the student who remarked, "I didn't know nurses knew so much about physiology, and that dietitians studied biochemistry." There is a real need for concerted effort to provide an interdepartmental approach early in the curriculum if we are to coordinate and improve health services to people.

The home care demonstration unit is concerned not only in teaching but improvement of health care through research. Currently, research studies in the following areas are in progress:

1. Poison control.
2. Accuracy in self-administered drugs.
3. Reasons why patients fail to keep clinic appointments.
4. Programmed instruction in normal nutrition for first year medical students.

The program was offered only to first-year medical students as an elective in September, 1963, since it was felt that enthusiasm would be optimal in this phase of their medical education. One afternoon of each week was set aside for selected students to participate in the program. Seventy in a class of 114 indicated an interest in the program.

The medical student is introduced to the patient and family as a "doctor in training." Depending on the orientation of the attending personnel, the student receives instruction in that area and at the same time experiences the interpersonal reaction and adaptation to a chronic disease.

In addition to the informal discussion following the home visits, a weekly seminar is planned for each group of five students for a 14-week period. During the first two discussions, strong emphasis is placed on the psychological and social problems of the family. As many of the medical and paramedical personnel as possible are included in each discussion to give the student an over-all picture of how a complex med-

ical problem is managed. The students participate in and contribute to each discussion.

It became apparent after an initial period of experimentation with this type of teaching that the patient and his disease should be presented to the medical student in the perspective of his basic science courses. With this in mind, subsequent discussions were designed and presented relating the student's current basic science lectures and area of study to a specific patient. These more formal discussion groups followed those which introduced the student to the socioeconomic and psychologic problems of the patient and family. Guest speakers in the basic science areas are invited to attend the discussions in order to present an interdepartmental and unified approach to a chronic disease process. Guidelines for study are presented to the student in advance of each seminar. At this writing, 20 medical students have participated in the home care study.

"Block teaching" in medical schools has been widely criticized. The main criticism, of course, has been the accusation that basic science departments have failed to inter-relate their subject material into a unified concept. The correlated presentation of physiology, biochemistry, anatomy and pharmacology has been considered by some to stimulate the student's ability to think along general lines and augment his scientific observation and evaluation.

The interdisciplinary presentation of home care patients in the discussion has been an attempt to stimulate conceptual thinking. In the home care discussion groups a definite lack of knowledge among the students of the inter-relationship of the basic sciences has been noted. Of course, whether or not

the home care study will accomplish this purpose, remains to be seen.

Values of the home care and community health study program as a learning experience include: the medical student's awareness of the specific services offered by nurses, physical therapists, occupational therapists, social workers, dietitians and other paramedical personnel, and contact with governmental and voluntary facilities giving the student some insight into the utilization of these services by the physicians.

Many of the patients in the home care study were receiving some services rendered by such groups as the city and county health departments, voluntary health agencies, the state welfare departments, the visiting nurse association and others.

The evaluation of this learning experience can be measured only in its ability to bring students to their clinical clerkships and subsequently, to the practice of medicine with a deeper insight into the real meaning of the overworked phrase, "comprehensive medical care."

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GLAUCOMA DETECTION

Headaches may provide a clue to the detection of glaucoma, reports Dr. J. C. Wright of the U.S.P.H.S. Hospital, Staten Island, New York.

During a nine-month period, all patients who complained of headaches as their primary reason for going to the hospital were referred to the Ophthalmology Department. Of approximately 90 persons examined, 17 had abnormal findings. Of these, 10 had chronic simple glaucoma and currently are being treated.

"It is interesting to note that of these 10 patients with glaucoma, 9 no longer had headaches when their glaucoma was controlled," Dr. Wright noted. In virtually every large survey of persons over 40, two per cent are discovered with chronic glaucoma of which they are unaware. Because Dr. Wright wished to increase the yield of glaucoma suspects (if discovered early and treated faithfully, blindness can be prevented), he elected to choose the symptoms of headache as the criterion for screening patients.

Patients with acute glaucoma usually have severe eye pain, the author explained. Patients with chronic glaucoma may have a vague ocular discomfort or headache. Wright, J. C.: glaucoma detection survey on the basis of headache, *Military Medicine* 128:676 (July) 1963.

Student-Centered Groups

An Approach to Some Problems in Medical Education

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THE TRAINING OF PHYSICIANS presents many problems. If we are to meet the health care needs of tomorrow, those involved in medical education must find a means of solving them. It is the purpose of this paper to outline some of the crucial issues in medical education, to sketch the fundamentals of our approach to those issues and to give an example of this approach in practice.

Some Problems

The *explosion of knowledge* of recent years has placed an immense burden on medical schools and hospitals with training responsibilities. The tremendous growth of our information in both basic and clinical sciences means that the well trained physician today must be far better informed than the physician of two decades ago. To impart this knowledge is a perplexing challenge.

Closely allied to the above is the *tentative nature of knowledge*. Today's "fundamental concepts" may, in the light of tomorrow's knowledge, become quite useless. Those of us who have been out of medical school but a few years recognize that many of the things which our eminent teachers taught us have become outmoded by subsequent developments. This means that it is essential for the medical educator to impart to the student and young physician not only an understanding of current concepts but also the capacity for continuing self-education.

Largely as a consequence of the first two problems has come increasing *specialization*. As knowledge has become increasingly compartmentalized medical schools and hospitals have become increasingly departmentalized so that the student, intern and resident receive their training in a somewhat fragmented fashion. Whatever impact specialization has had on the practice of medicine and however the problems posed by this are solved, there is a very real need in medical education for integration in learning. This integration will be as necessary for the training of physicians as it will for the continuing growth of

worthwhile medical knowledge through research.

The inevitable result of the above has been an *increase in the length of training* for physicians. The social, emotional and financial aspects of this lengthening period of learning have had many repercussions not the least of which has been the increasing inclination of able college graduates who formerly might

The rapid expansion and constant changes which characterize modern medical knowledge have created critical problems for medical education. An effort is made in this paper to emphasize the importance of utilizing the scientific method to solve some of these problems.

have entered medicine, to select other fields. If medical educators are to deal effectively with the problem of protracted training *they* must find more efficient means of teaching. They cannot afford to simply suggest that elementary, secondary and college education become more efficient.

This brief outline is obviously not intended to be inclusive nor to discuss in detail any of these complex issues; it is simply meant to call attention to certain critical areas of our concern.

An Approach to These Problems

It seems reasonable that the first step in dealing with these problems is to set our goals—to determine just what it is we wish to accomplish with a particular educational endeavor, whether it be the teaching of students, interns or residents. Determining objectives can be a difficult, time consuming and frustrating experience, but it seems to us essential to the formulation of a productive educational experience.

The second step in our approach has been the application of what currently appear to be sound educational principles to our efforts in attaining these objectives. Though educational psychology is still in its infancy a considerable body of information has developed and the time has arrived for applying

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something of what has been learned about educational psychology to the education and training of physicians. The medical profession has, in the past, viewed the behavioral sciences with what can perhaps be described most kindly as an attitude of distrust. However, it seems to us that the present circumstances demand that we accept, critically to be sure, that which educational psychology has to offer.

Our third step has been to employ the scientific method in our approach to problems in medical education. We have endeavored to develop and test hypotheses in much the same fashion as we do in the research laboratory. Medical school curriculum design as well as methods of teaching have remained much the same over the last half century in spite of the changing demands on medical education. The few "experiments" that have been carried out have mostly been done as totally uncontrolled studies; medical educators have simply tried this or that and then decided whether or not it met their particular fancy. While there is a real place for the descriptive and exploratory study in both medical and educational research, we would not think of relying on totally uncontrolled experiments in clinical medicine and we must not do so in medical education.

There are those who would argue that teaching is an art, not a science. It seems to us that the teaching, like the practice of medicine, is a blend of art and science. To exclude the science from education would be as damaging as to exclude the science from medicine. The basic scientist can clearly criticize the nature of clinical research on the grounds that it is inexact; similarly, the medical scientist is prone to find fault with educational research on the same grounds. Just as the clinician will not reject clinical research in the face of the basic scientist's attack so must he not reject the results of educational research because of its uncontrolled variables, individual variation and lack of precision.

To clarify this position, we have presented below an example of our approach in action.

AN EVALUATION OF THE STUDENT-CENTERED GROUP

Objectives

Among the objectives of the third year surgical clerkship the following seem particularly significant to us:

1. The acquisition of a certain amount of factual information; not that necessary for the surgeon but rather that necessary as background information for any field of medicine.
2. Acquisition of the ability to recognize and define problems.

3. Acquisition of the ability to accumulate data with discrimination.

4. Acquisition of the ability to analyze and interpret data.

5. Acquisition of the ability to communicate facts and opinion to others, notably colleagues, patients and patients' relatives.

6. Acquisition of the desire and ability for continued learning.

In other words, the objectives of medical education include, in addition to the acquisition of factual information, the development of certain skills—skills in problem solving, communication and continuing self-education. In accepting the tentative nature of knowledge it seems to us that the development of these skills actually takes precedence in importance over the acquisition of factual information; the medical educator must pay specific attention toward their development.

Having defined our objectives, our task then becomes one of finding the optimal means of attaining them.

Educational Principles

Certain principles of educational psychology seem to us sufficiently established to warrant application to medical education. Some of those which we feel are particularly pertinent are as follows:

1. For an educational experience to be productive a student must come to it with the feeling of a "need to know." Without this perhaps teaching, but certainly not learning, can take place. Too many of our educational efforts are frustrated by the fact that many messages are being sent but few are being received. To the extent that we can create in the student "a need to know" we can increase the reception.

2. The student must be an active participant in the learning process.

3. The student should gain satisfaction from the learning process.

4. Student errors should be immediately corrected.

5. Group dynamics can often be effectively employed to achieve goals which are otherwise difficult to attain.

Forming and Testing an Hypothesis

One of the strengths of medical education has been its use of diverse techniques to achieve its goals. Clinical responsibility in the care of patients, various types of rounds and conferences and many other devices have been used. In medical school the formal classroom session still plays a significant, if limited, role. These sessions, designed in most clinical clerkships to impart a framework of fundamental infor-

mation on which the student can build his expanding fund of knowledge, have usually taken the form either of lectures or conventional "instructor-centered" group discussions. The experience of most of us has been that the difference between the two has usually been quite small. While these methods appear on the surface as reasonably efficient means of imparting factual information they obviously do little toward meeting the other objectives which we have listed above. Furthermore, they do little to cultivate in the student a "need to know," they are generally characterized by the absence of active participation on the part of students, they do not provide the student with much satisfaction, there are minimal opportunities for correcting student errors and they make little use of the powerful forces involved in the group dynamics. The purpose of the study described below was to attempt to find an alternative method of instruction which would aid in the attainment of more objectives and make better use of sound educational principles.

One of the alternatives we have designed, we have chosen to call the "student-centered group discussion."

In advance of each session, the students are given a reading list consisting of ten to twelve articles pertaining to the topic to be discussed. The lists contain a wide variety of articles: reports of clinical and laboratory research, literature reviews, etc.; an effort is made to include works which deal with controversial issues. At a selected time the students assemble in a conference room and engage in a 45 minute tape recorded discussion of the topic under consideration; no instructor is present. At the end of this period, the group adjourns and the tape is monitored by an instructor during the next 45 minutes; the group then reassembles with the instructor present and during the next 30 minutes the group attempts to clarify and amplify certain points which had arisen during the original discussion and to explore in greater depth some areas which had been covered superficially. The students are instructed that the organization and format of the discussion period is their responsibility; most groups select one member as a moderator.

In terms of the objectives and educational principles mentioned above, it is apparent that this teaching method offers some advantages over conventional techniques. In preparing for the conference through literature reading, the student gains experience in recognizing and defining problems and in accumulating data as well as in analyzing and interpreting it; in many respects discussing the reading with a group of colleagues places greater demands upon the student for doing these things effectively than does discussing them with the instructor. In addition, the student has an opportunity to polish his ability to communicate and he gains experience in self-edu-

cation. The completely free discussion carried out in the absence of the instructor allows the students to proceed into areas where they have a "need to know" rather than focusing it in areas in which the instructor may consider important but where student interest may be so low as to completely prevent reception of the instructor's message. Active participation and satisfaction on the part of the student should be quite high. The free discussion this situation allows should encourage integration of information across lines of specialization. The follow-up session permits the instructor the opportunity for immediate correction of student errors. Our rationale for the development of the "student-centered group discussion" is more comprehensively discussed in another publication.²

Having developed our hypothesis it was then necessary to test it.

During 1961-62, third year students at the University of Kansas School of Medicine had a ten week course in surgery; the 20 to 25 students in the course each quarter were divided into two approximately equal groups. Each group spent five weeks at the Kansas City Veterans Administration Hospital and five weeks at the University of Kansas Medical Center. While at the Veterans Administration Hospital the students were assigned patients for whom they carried the usual clinical clerkship responsibilities. In addition, they spent three to four hours each day in some type of session designed primarily for instructional purposes: conferences, rounds, etc. Included in these were daily one and a half hour classroom sessions which, in previous years, had been devoted to an assigned topic and conducted primarily as lectures or as instructor-centered group discussions. The topics of these sessions had been selected so that at the completion of the course, the students had been exposed systemically to most of the general areas of subject matter. It is with these sessions that the study outlined below deals.

Method

Two separate studies were undertaken. Study A was carried out first to be certain that the use of the student-centered group in place of conventional methods did not interfere with the student's acquisition of factual information. Study B was then conducted to assess the influence of the two methods on the development of skill in evaluating information and solving problems and on the usage of journal literature.

STUDY A. Utilizing four groups of twelve students each in two quarters, one half of the topics ordinarily selected by the faculty for the classroom sessions during each quarter were covered by conventional methods and one half by the student-centered group technique; the topics covered by each technique were

reversed in the two quarters. In this fashion, over the two quarters all of the subject matter was handled once by each of the techniques. At the completion of its period of assignment at the Veterans Administration Hospital each group was tested for recall and recognition of factual information in the various subject matter areas covered. In this way the comparative acquisition of factual information under conventional methods and under the student-centered group could be studied.

STUDY B. Two groups of students, one from the first half of one quarter and the other from the second half of the subsequent quarter were taught by conventional techniques; the other two groups from these two quarters were taught entirely by the student-centered group method. Different procedures for the selection of topics for consideration at the classroom sessions were utilized for the groups taught by the two methods. The students taught by conventional methods were assigned topics in the usual fashion; those taught by the student-centered group method met early in their period of assignment at the Veterans Administration Hospital and set up the time and frequency of their discussion groups and without instructor intervention selected the topics for consideration. The two groups taught by conventional methods were then compared with the two groups taught by the student-centered group technique with respect to their ability in evaluating sources of information, their skills in solving problems and the amount of non-assigned journal reading they did. The ability to evaluate sources of information and skill in problem solving were measured by an objective test especially designed for this purpose; the library's data on the circulation of current journal literature (other than that on the reading lists) among the students was utilized as a measure of the usage of journal literature.

The groups were made up randomly and on the

basis of comparison of their college grade point averages, MCAT scores and performance in other medical school courses, there is reason to believe that they are comparable.

Results

STUDY A. The acquisition of factual information was better in groups covering specific subject matter areas by the student-centered group method than in groups covering the same material by conventional methods.

STUDY B. Scores on the test of critical thinking were higher in the groups taught by the student-centered method than in those taught by conventional techniques. Furthermore, the circulation of non-assigned journal literature was greater in groups taught by the student-centered discussion than in groups taught by conventional methods.

All of these differences on statistical evaluation were found to be significant at probability values less than .05.

Results of this study have been presented and discussed in greater detail elsewhere.³

Clearly, the study suggests that the student-centered group discussion is an effective and efficient approach to certain educational objectives which are otherwise difficult to attain.

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New Psychiatry Teaching Method

A Technique for Teaching Interviewing Skills

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Introduction

IT IS GENERALLY ACCEPTED that the medical student should be exposed in his years of undergraduate education to the specialty of psychiatry. Levine and Lederer, in describing the high status and increased prestige of psychiatry in the colleges of medicine, comment about the varying emphasis: in a few schools, one tenth of all curriculum hours in the four years is assigned to courses given by the department of psychiatry, while in others the growth is much more modest; but generally a university in this country exposes the undergraduate medical student to psychiatry in some form or another. The novelty of recent attention to psychiatry leaves unsettled many issues which continue to challenge the teachers of psychiatry as indicated in the works of Lester and Ornstein, etc. One of these is the difficulty a medical student experiences when he arrives as a clinical clerk on the psychiatry service. The problem has several determinants, but one which directly concerns the scope of this paper is the phenomenal shift the student has to make to step out of his customary role of a non-participant observer: he has to leave the stethoscope, ophthalmoscope, reflex hammer, microscope, and other equipment in the use of which he has gained some competence in the earlier years, and make himself ready to meet the patient totally unarmed. From his quest of conquering the definable diseases on other clinical services, he must now deal with the unpleasant and frightening aspect of human behavior and feelings. For some, it is rough going: this "Training for Uncertainty." The customary literal-minded approach of "investigate, advise and prescribe" is now replaced by an interest in patients' feelings and motives which he must learn to explore in the basic psychiatric laboratory: "Interview Situation." He finds it difficult to see himself as a crucial element in the management of the psychological problems of the patient. The doctor-patient relationship, as it emerges when a student interviews a patient with psychological problems, is one of great

concern to teachers of psychiatry. There is a modest amount of literature in this area which the student reads on his own initiative, or at the direction of the faculty, and soon stumbles upon a recurrent concept that interviewing a patient is an "art." In his brush with the literature on the subject of doctor-

A technique for teaching interviewing skills is described. The comments of the students exposed to this technique are summarized. It is suggested that this procedure could be transposed at the postgraduate level of training to develop skills in psychotherapy among the residents by the use of the keyboard and an indicator board. It appears that this technique has the potential of putting into sharper focus the philosophies of various psychotherapeutic schools by providing an opportunity to see how a theoretical hypothesis is applied clinically. In conclusion, it may be stated that the art and science of the practice of psychological medicine are neither separate nor separable. Occasionally, a brilliant interviewer or therapist is born, but most of us have to learn. The author views the usefulness of this technique in much the same manner as the position taken by Kant, with regard to philosophy, who said, "I do not intend to teach you philosophy but how to philosophize."

patient relationship, he finds considerable lucidity and literary elegance, but a body of knowledge which still leaves him dismayed and helpless when he is actually with a patient. In order to help him in this area, several attempts have been made so far to expose the medical student to a situation in which he observes a psychiatrist interviewing a patient, either in an individual or in a group setting. One-way vision rooms and, recently, tape recording and television accomplish similar objectives. The student accepts with reservation the "art" involved in psychiatric inter-

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Paper delivered at the 119th annual meeting of the American Psychiatric Association in St. Louis, May, 1963.

viewing, but wonders as to why a particular question was asked, or why one was not asked. The technique described below is an attempt to meet this need of the student: an "attitude set" which he has acquired on other clinical areas in his medical education.

Description

A senior psychiatrist interviews a patient on a closed circuit television. The interview is recorded simultaneously on the tape. The students observe the patient from another room on the television screen. The patient is informed about the fact that he is being observed by a group of professional people. The psychiatrist calls to the students' attention particularly interesting or meaningful sections of the interview by the use of a buzzer. One buzz indicates emphasis on verbal communication, and two indicate emphasis on non-verbal communication. The patient does not hear the buzz. The buzz is recorded as a beep signal on the tape. After the interview is completed, the psychiatrist discusses the interview with the students. Students answer a questionnaire relating to the various aspects of the interview.

Observations

In the first quarter (from September 12, 1962 to December 6, 1962), nine medical students saw one female patient interviewed for a total of eleven sessions at the frequency of one fifty-minute session per week for short term psychotherapy treatment. The following summarizes the information gathered from the questionnaires and from the informal discussions already referred to above:

1. The students commented on the importance of starting and ending the interview on time. Some of them had experienced difficulties in this area with regard to the patients that had been assigned to them, and felt that they could use the demonstration to advantage.

2. Some students' comments reflected their own personal problems on the clerkship; for example, one student wrote "will you be able to write an admission note on the basis of this one interview?" Admission note was written by the staff person, and he brought to the notice of the group how an initial interview could be deficient in certain areas, but that the interview contained enough information to enable the interviewer to write an adequate admission note to meet the requirements of the administrative policy.

3. It was gratifying to note the students' comments on the patient's non-verbal behavior. They paid attention to the patient's gestures, muscular tone and movements, play of facial expressions and evidence of autonomic activity, and in few instances made correlation of this behavior with the content of the interview.

4. Some students realized how necessary it was

to have information before you gave advice to a patient, and how a clear-cut line of demarcation did not exist between the history-taking process and the therapy process with a psychiatric patient.

5. The students appreciated seeing how a psychiatrist reflected the patient's statement back to her, and invited the patient to take a second look at the position she had taken on a particular problem. One student remarked, "I just relearned that patients will take home and mull about their experiences in therapy."

6. The beeps on the tape were perceived by the students as willingness on the part of the psychiatrist to discuss every stage of the interview. One student wrote, "I felt I was right there with the patient when you buzzed."

7. Some of the comments of the students seemed to indicate their awareness of what I call the fine print of a psychotherapeutic contract. For example, how important it is to delineate what the patient considers as a problem and the therapist's view of the patient's problem, an issue that should constantly be kept in mind all through the therapeutic process. The group experienced relief at not having to rush headlong into what the patient considers a problem, and appreciated how the professional poise of the therapist induces the necessary composure in the patient's turbulent emotional perspective of the process of living.

8. That psychopathology of one member of the family in some measure establishes a homeostasis in the family dynamics was commented upon by one student as follows: "We finally got to see what we have been hearing about all the time; that the patient has to remain ill for the husband to maintain himself." The students commented that they were able to see how one can work at a deeper level with what appears to be superficial information, and also situations that appear insignificant at first sight, at times assume emotional significance after exploration.

The six students in the second quarter (December 6, 1962, to March 8, 1963) saw a different patient interviewed each time. The patient would be one with whom one student in the group had been working with for some time. This student stayed in the interview room as I was talking to the patient. A summary of comments of this group is as follows:

1. The group gained appreciation of the fact that there was no standard approach that could be used for a patient with one diagnosis as opposed to the other, and that the approach in interviewing had to be flexible and modified according to the psychopathology of the patient. They were able to see how to be active, aggressive, directive, authoritative or interpretative in different situations, and saw the techniques of handling a patient who digressed or was non-cooperative, or how to make comfortable a patient who was anx-

ious. One student wrote, "It was so expertly done, I did not notice it."

2. One student commented about the usefulness of prolonged silences and appreciated the concept of the answering silence of the therapist.

3. The group became aware of the fact that not only the patient, but also the therapist uses non-verbal methods of communication. One remarked, "Maneuvers and facial expressions in handling a patient were demonstrated with great skill. Before, I had thought of a therapist as strictly a kind, coaxing, but neutral individual."

4. One student, in answer to the question, "Was this interview a learning experience for you?" wrote, "Yes. First of all, I have seen perhaps what I should have been doing all along with Mrs. X. I feel I've been her 'buddy' but have done little."

Both groups commented about the limitations of the present physical setup. Sometimes they were unable to hear the comments of the psychiatrist since the microphone was closer to the patient. The method described by Moore in the use of television has a lot to offer in this area.

In the informal discussion that followed each interview, clarification of techniques or viewpoints was attempted. During these meetings, when a particular point was explained to the students, and a similar situation arose in a subsequent interview with a patient, the psychiatrist would buzz to emphasize the point, and then in the informal discussion ask the students about its meaning, thereby providing an opportunity not only for teaching, but also for testing. It was found in most instances that patients did not object to being on closed circuit television. Some patients expressed satisfaction at the opportunity to participate in the educational endeavors in training young physicians.

Discussion

The theoretical and pedagogic considerations arising out of this technique will be explored in another paper. It is felt that this technique lends itself for teaching purposes at a variety of levels. For example:

1. The psychiatrist can re-record the interview on a second tape, and insert his comments or reasons as to why he asked a particular question when there is a beep. This tape (now called secondary tape as opposed to the primary tape which only records the interview and the beeps) can be used on subsequent occasions with different groups of students without the benefit of the patient or television. However, this arrangement will only preserve the verbal content of the interview; the two beeps emphasizing the non-verbal content would still be lost up until the time the interview has been recorded on a video tape.

2. A library of such secondary tapes can be de-

veloped with each tape devoted to a specific subject. These tapes could be used for discussions with audiences that have particular interest. For example: (a) a refresher course for general practitioners on such topics as depression, evaluation of suicide risks, etc.; (b) student nurses; and (c) occupational and recreational therapists.

3. A library of secondary tapes by different therapists demonstrating their techniques arising out of their particular school of theoretical commitment can be used for teaching the residents in psychiatry. A voluminous quantity of literature has accumulated about the various schools of psychotherapy. It would be quite rewarding to understand how a clinical approach is modified as a result of a therapist's particular theoretical position. What the present technique will do in this particular area would be that a therapist would buzz at the point when he perceived something occurring in the interview which he would like to explain to the audience on his particular theoretical position. The buzz has the potential of bringing the audience much closer to the mental operations of the therapist than had been possible hitherto. It would be ideal, indeed, if the therapist could make comments exactly at the time he was responding to the patient, but this is impossible. The buzz, recorded as a beep on the primary tape—which would be punctuated with numerous such beeps—would help the therapist to recapture his thoughts and feelings exactly at the point when he made a particular statement to the patient. It is well known that what the therapist experiences in the clinical situation is greatly modified when he attempts to explain the same to the students after the interview is over. The fragmentation of the interview that would occur as a result of the beeps would appreciably assist the teacher of psychotherapy.

4. This technique could also be used to great advantage to teach the process of psychotherapy at the residency level. For example, there is no unanimity of opinion as to the number of defense mechanisms employed by a human being nor the number of therapeutic maneuvers utilized by a psychiatrist. Besides, there is considerable haziness as to what is meant by a particular defense mechanism; for example, repression or a therapeutic maneuver; for example, interpretation. It appears that each therapist has his own individual understanding in both these areas. This technique would make it possible to demonstrate to the residents at least what a particular therapist understands by these terms in actual clinical situations. To accomplish this, the therapist's desk might be equipped with a keyboard with auditory and visual signals, and the audience room should be equipped with an indicator board as shown in *Figure 1*.

If the therapist wanted to demonstrate the mechanism of repression or his technique of interpretation,

KEY BOARD (ON THERAPIST'S DESK)	
DEFENSE MECHANISMS (In Red)	THERAPEUTIC MANEUVERS (In Green)
A B C D	1 2 3 4
INDICATOR BOARD (IN AUDIENCE ROOM)	
DEFENSE MECHANISMS (In Red)	THERAPEUTIC MANEUVERS (In Green)
A DENIAL	1 CLARIFICATION
B UNDOING	2 CONFRONTATION
C RESISTANCE	3 INTERPOSITION
D REPRESSION	4 INTERPRETATION
ETC.	ETC.

Figure 1

then, when in his judgment the patient was using repression or he was using interpretation in the interview situation, he would press key D or key 4 respectively. As soon as he pressed key D or key 4, the audience would hear a buzz, as well as an explanation of the buzz, on the indicator board by the flashing of appropriate light. Both the keyboard and the indicator board could be simplified or made complex as desired. It will be seen that the stimulus of sound (by pressing key D) signal will be reinforced by the light signal on the indicator board in addition to

the visual experience of the clinical situation. If the burden on the interviewing psychiatrist becomes unmanageable, then he could use an auxiliary teacher. The psychiatrist who is interviewing the patient and auxiliary teacher should have complete agreement as to what they mean by various terms, and the role of demonstrating to the residents could be taken over by the auxiliary teacher by pressing the appropriate keys as before. The auxiliary teacher should check with the psychiatrist after the hour if his understanding was correct in what he demonstrated to the residents, and constant communication back and forth between the psychiatrist and the auxiliary teacher would eventually result in significant uniformity of viewpoints on the concepts demonstrated. When the interview is video taped, the sub-title on the screen would serve the same function as the indicator board.

5. Stoller and Geertsma have developed a procedure to assess clinical judgments in psychiatry. In like manner, the primary tape could be played at the examination with students commenting whenever there was a beep. Their answers could be compared with the observations of the psychiatrist on the secondary tape. If the psychiatrist were also the teacher of the students being examined, it would reduce the discrepancy that sometimes occurs between what is taught and what is being examined.

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KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on June 5-6, 1964, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application blanks and other information can be obtained from Dr. L. C. Heckert, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

Medicine in Sarawak

The Medical Missionary Program at Work

STANLEY R. FRIESEN, M.D.,* *Kansas City, Kansas and*

NORVIN D. SCHUMAN, M.D.,** *Kapit, Sarawak*

THE PEOPLE OF THE United States have many opportunities to count the blessings of freedom from those diseases which have been virtually eradicated by preventive health measures. It is only in an unusual circumstance that one can still observe conditions in which the influence of witchcraft and animistic beliefs is ubiquitous and where hygienic and sanitary measures are more unknown than the outboard motor. The medical missionaries, doctors, and nurses are forerunners into certain developing areas, bringing, with their miracle drugs, ideas to supersede medically dangerous traditions and customs regarding childbirth and infant care, while educating primitive peoples on the value of boiled water, latrines, and vaccination.

One such area is Sarawak in the island of Borneo, now a part of the rapidly developing and progressive Federation of Malaysia. Upriver, through dense jungles and 90 miles inland from the closest airport and roads of Sibü, Sarawak, is the small village of Kapit, where Christ Hospital (*Figure 1*) is the center of a medical missionary program efficiently organized under the auspices of the Methodist Church. This 60-

bed general hospital is the only hospital in an area the size of the state of Maryland, with more than 40,000 inhabitants. There usually are one or two physicians here, a half dozen registered nurses, and

A résumé, probably incomplete, has been presented to remind those of us in "civilized" areas that there still are areas in which diseases and conditions prevail because of primitive customs, witchcraft, lack of routine vaccination, sanitation, and "proper" nutrition. Definite and observable inroads have been made by the British Government and by medical missionaries in Sarawak. It is apparent that the developing democracy of Malaysia, of which Sarawak is an important part, will lead to good political and physical health of its inhabitants.

* Professor of Surgery, University of Kansas Medical Center, Kansas City, Kansas, who visited Dr. Schuman in Kapit, Sarawak, in September, 1963, during a two-week leave of absence.

** Methodist Medical Missionary in Kapit, Sarawak, who graduated from the University of Kansas School of Medicine in 1957.

about 40 other employees of multiracial background. In addition to this hospital, these medical people serve a small outpost clinic at Nanga Mujong (*Figure 2*) which is about 20 miles farther upriver, where a nurse remains for a six months' rotation. There is also a mobile clinic (*Figure 3*), a long-boat with outboard



Figure 1. Christ Hospital and homes for personnel in Kapit, Sarawak.



Figure 2. Clinic upriver at Nanga Mujong (fork of the river Mujong).

motor, which makes regular visits upriver when there is no terrorist activity along the Indonesian border. Five medical students from the United States, with Fellowships, have spent short periods of time in this area. The medical missionaries work closely with the theological, agricultural, and educational missionaries of the area.

The People and Their Customs

It was in Sarawak that the head hunters of Borneo, the Ibans or Sea Dyaks, engaged in decapitation not so much in the spirit of hate as in seeking the status of warriorship and manhood. As a symbol of status, tattooing of the skin on the back of the hand signified a successful securing of a cranial trophy which hung in a net from the ceiling of the longhouse of a non-Christian native. This barbaric custom was outlawed by the first "White Rajah," Sir James Brooke of Sarawak, and the display of heads is not seen in the homes of Christian Ibans who have either buried their trophies or have hidden their "closeted skeletons" in the attic. In addition to the Ibans, there are other primitive tribes in Sarawak, together with Chinese and Malayas, and these people of various backgrounds make up the patient population of the medical personnel—missionary and (formerly British) government.

In the region of Kapit the predominant race of people is the Iban, who live primitively and together in longhouses constructed of bamboo on stilts along the river banks (Figure 4). It is these people who, with their animistic credos, present the greatest problems in breaking old customs and teaching sanitary living. The Chinese live primarily in the village, in seemingly unsanitary conditions, and the Malayas live near the village in a compound, where whole families live together in one house on stilts, but separate from other families. The latter group of

people live much more hygienically than do either the Ibans or the Chinese. Their houses usually are very clean, due in part to the Moslem custom of removing the shoes on the outside steps. The Ibans usually wear no shoes, and the men wear only a loin cloth or shorts, exposing their numerous tattoos which cover most of the body. The women wear a sarong wrapped around the waist, with or without a kabaya (blouse).

The Iban is small in stature and appears undernourished. That any survive childbirth is surprising because of the custom in which the grandmother usually "officiates" at her daughter's parturition in a most enthusiastic and forceful manner. When the time of delivery is imminent, the grandmother will push manually on the uterine fundus with such force that uterine rupture is not infrequent. In the apparent haste to terminate the delivery, it is said that the grandmother will occasionally grasp a protruding arm of the fetus and pull.

If the infant survives its birth, its next hazard im-



Figure 3. Mobile Clinic on the river Mujong.

mediately presents itself. Because of a custom of treating the severed umbilical cord with dry earth from beneath the ashes at the cooking hearth to stop the bleeding, a large number of cases of tetanus neonatorum develop. At Christ Hospital approximately ten newborn infants with tetanus are admitted each year; more arrive already dead, and even more die in the longhouse. A report of the management of tetanus neonatorum in this primitive area is being prepared and it suffices to say here that the survival rate in the last few years has increased from 15.4 to 35.7 per cent by the vigorous treatment of intravenous administration of large doses of tetanus antitoxin, intravenous feedings, and increased efforts to prevent patients from leaving the hospital against medical advice. Experiences here are similar to those in other primitive areas.¹

After the young mother has delivered her infant, she will sit with her back to a fire in her longhouse for a month to "dry up the womb." During this time she will take only small amounts of rice, salt,

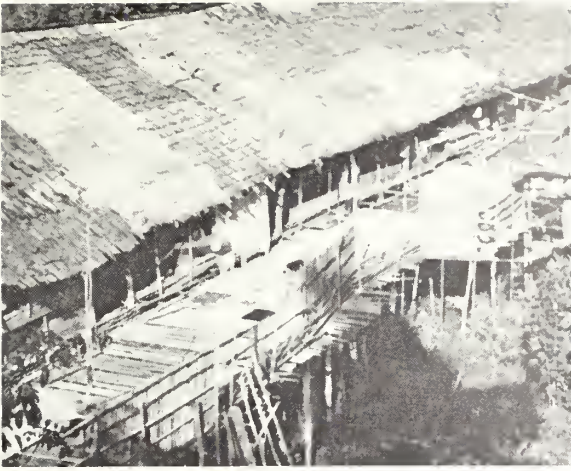


Figure 4. Iban longhouse.

and water by mouth. Because of this custom, several instances of skin burns of the back have been treated.

The new infant, having survived its birth, then faces the hazards of (1) diseases which are preventable by vaccination; (2) diseases caused by lack of sanitation; and (3) metabolic and nutritional conditions related to geographic dietary inadequacies.

Diseases Preventable by Vaccination

In the first category many children with whooping cough (pertussis) complicated by pneumonia are seen. Recently four cases of diphtheria have been treated at Christ Hospital with the salvage of one. Tetanus from infected sores of the legs also has been observed in children. All of these are preventable by the usual triple vaccine, which in the United States is taken for granted.

Diseases Due to Lack of Sanitation

Recently a six-year-old, gravely ill girl was carried into Christ Hospital by her parents, who had come down river all night by long-boat to see the missionary doctor. A "white cross" had been painted where she complained of pain, over the area of the spleen; she had been treated by the witch doctor. An immediate clinical impression of typhoid fever was made from the odor of the patient which, together with the history of constipation and fever, a palpable spleen on examination, and a laboratory leukopenia supported this diagnosis. A Widal test confirmed typhoid fever. An example of the "white cross" is seen in Figure 5.

More than 200 cases of typhoid fever are admitted to Christ Hospital each year, which constitutes approximately 10 per cent of the admissions per year. The treatment of suspected typhoid fever consists of 500 mgm. chloramphenicol every six hours in the adult until the patient is afebrile and then 250 mgm.

every six hours for a total period of six days. The usual response is that the appetite returns in about 24 hours and the temperature falls to normal in two to three days. Usually by six days the patient feels so well he is asking to leave the hospital. A typical temperature chart of a proven case of typhoid fever is illustrated in Figure 6; it represents a significant contrast to the two or three months commonly required prior to antibiotic treatment.

Many more cases of fever with diarrhea in small children are seen which are not diagnosed as typhoid fever. There are no facilities for bacteriologic confirmation; therefore, most cases of all varieties of dysentery are treated empirically and symptomatically. It is not surprising that dysenteries and typhoid fever are so common when it is realized that the river is used for drinking water, bathing, washing and swimming. The disposal of waste dropped to the ground

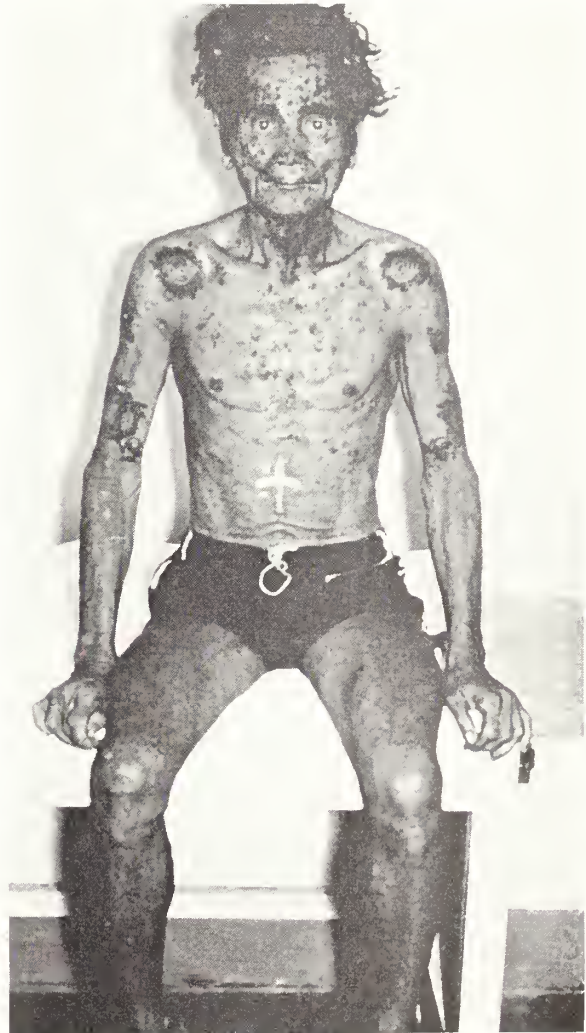


Figure 5. Tattooed Iban native with chickenpox, illustrating the witch-doctor's "white cross."

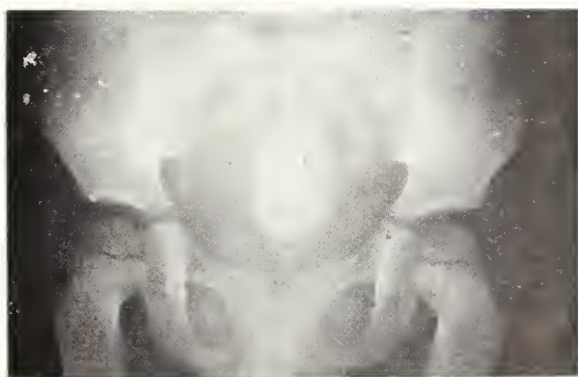


Figure 8. (a) Iban child having had bladder stone removed; (b) x-ray appearance of bladder stone.

paucity of gallstones in those people. Whether this also contributes to the lack of obesity and the ostensible lack of coronary disease is conjectural. In Nanga Mijong an agricultural missionary has demonstrated that imported Guernsey cattle can be raised and bred in Sarawak, so now the first dairy is in operation down river in Sibu. Whether such "advances" in civilization, with improvement in nutrition, will be

offset by the attendant increase in arterial disease remains for future generations to contemplate. The thin undernourished natives are said to be small in stature because of heredity. At Christ Hospital the average birthweight of the Iban male infant is six pounds; the female, five pounds, eleven ounces. These values are one pound less than the average birthweight of the Chinese infants there. Typical Iban infants gain weight at a pace of only doubling the birthweight in a year. The nurse at Nanga Mijong believed that this rate of growth was not inherited but was related to habits of poor nutrition and sanitation early in childhood. To test her idea she persuaded two young mothers not only to have their babies born in her two-bed clinic but to remain with her for a month. There she taught them the secrets of boiled water, boiled diapers, clean hands and food preparation. Much to her credit, she found that in time these infants grew at a rate similar to that of infants in the United States.

Iron deficiency anemia is common in Sarawak. Essentially every Iban infant and child is anemic. A hemoglobin of 10 or 11 gm. per cent in Iban women



Figure 9. (a) Urethral stone deposited on "palang" seen on (b) x-ray.

or 12 gm. per cent in Iban males are better than average values.

The problem of colloid goiter is now being approached by the government, which requires merchants to sell only iodized salt.

Surgical Conditions

The incidence of ectopic pregnancy is high in Sarawak, as in other areas of Southeast Asia. In Christ Hospital, operations for ectopic gestation are the most frequent among major surgical procedures. An unusual abdominal lithopedion is illustrated in *Figure 10*, which occurred in an Iban woman apparently 40 years of age.* She entered the hospital with the complaint of abdominal pain "for a long time." She had been married about ten years and had had no children. About seven years prior to admission she had been pregnant, which after nine months was followed by profuse vaginal bleeding. No baby was born. After three years during which the abdomen remained enlarged and the bleeding was intermittent, regular menstruation began. Examination upon admission revealed a hard, irregular, nodular pelvic mass extending up to the umbilicus. An x-ray demonstrated a calcified fetus and at operation a lithopedion in the left adnexa was removed with the uterus. The patient recovered uneventfully. Abdominal lithopedions of longer than seven years have been reported.³

A close second in frequency of surgical procedures in Christ Hospital is operation for incarcerated inguinal hernia. Small intestine obstruction is also seen secondary to stricture of the ileum from old, healed, typhoid ulcers. Operations for trauma, of course, are inevitable, but differ in some respects from those in the United States because of the nature of the trauma. There are no accidents due to automobile traffic (normally there is only one car, a Land Rover, in Kapit). Injuries due to spears and knives used in fishing, hunting, and farming are seen, and occasionally injuries due to the unfamiliarity with the safe use of guns in hunting, require surgical attention.

Neoplastic diseases are not commonly seen in Kapit. Carcinoma of the buccal membranes develops in natives, many of whom display the telltale evidence of betel nut chewing by their red-stained fingers and mouths. *Figure 11* illustrates an Iban woman with hyperkeratosis of the lip and epidermoid carcinoma of the gingiva. She chews betel nut. Carcinoma of the lung has been seen and diagnosed by scalene node excision in Chinese males. Smoking of tobacco is prevalent in the Chinese and even in the Ibans; the latter more often smoke a reed-like weed. A case of carcinoma of the stomach also has been seen in a Chinese male and removed surgically. Malignant

* Iban natives do not know their age.

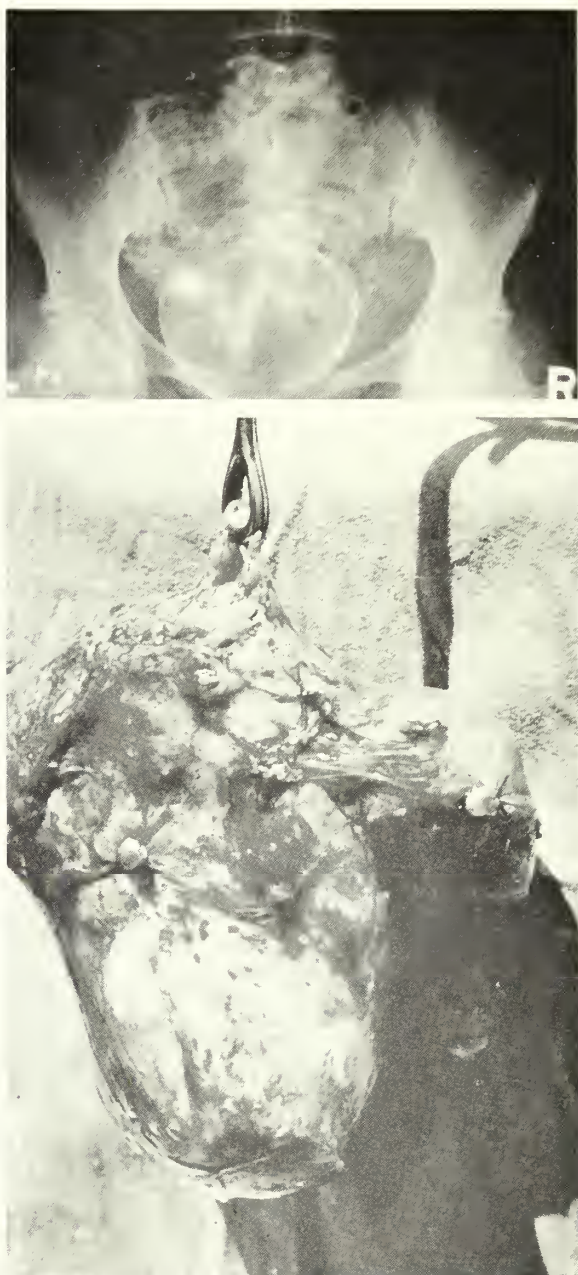


Figure 10. (a) X-ray view and (b) surgical specimen of seven-year abdominal lithopedion in Iban woman.

tumors of the cervical lymph nodes, sometimes primary in the tonsils, have been seen quite frequently in both Ibans and Chinese. Biopsy specimens are sent to Kuching (about 200 miles) for histologic diagnosis. Familial thalassemia major has been observed in a Chinese family.

Medical Progress in Sarawak

In the short period of time that medical missionaries have been in Kapit (the present Christ Hospital

was opened in 1960), progress has occurred which should encourage all but the most pessimistic observers. The natives of Sarawak are responding to the kindness of all the missionaries and to the visible benefits of medical knowledge. The apparent high intellect, kind disposition, and close family ties of the Ibans tend towards the acceptance of new ideas and the gradual dropping of customs deleterious to health.

In 1962, at Christ Hospital, there were 10,013 outpatients treated, 2,170 hospital admissions, 1,547 x-ray examinations, 107 major operations, 299 minor operations and 96 deliveries. In the upriver Nanga Mijong Clinic there were 5,080 patients treated, 535 immunizations, 72 well baby visits, and 21 deliveries. The mobile boat Clinic travelled 1,400 river miles during which 2,575 patients were treated, 137 immunizations were given, and illustrated health teaching was brought to the natives. During the time of the British Government in Sarawak, malaria has been reduced to negligible proportions through a residual spraying program in cooperation with the World Health Organization.

Medical progress under the guidance of missions and the government is evident in Sarawak. Such progress, together with a healthy political program,



Figure 11. Betel nut chewing Iban woman with hyperkeratosis of the lip and epidermoid carcinoma of the gingiva.

is likely to continue in the new Federation of Malaysia.

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BACK THE ATTACK On Traffic Accidents WITH THESE SPEED RULES

- ▶ Drive at a speed that will enable you to stop in the assured clear distance ahead.
- ▶ Slow down before you get to curves and intersections.
- ▶ At night, drive at the speed which will let you stop within your headlight range.
- ▶ Drive with traffic. You are probably going too fast if you are passing many cars—too slow if many are passing you. Where children are playing, be able to stop in a car length or less.
- ▶ When you're tired or inattentive, stop.

Home Nursing

Home Care and the Student Practical Nurse

SANDRA HALLDORSON, B.S.N., and
FLORENCE ERLEWINE, *Kansas City, Kansas**

A UNIQUE HOME NURSING PROGRAM has been developed as a part of the curriculum of the Florence Cook Department of Practical Nurse Education. Its purpose is to aid the student to see the patient as a part of the family and a member of the community; and to help meet the increasing need for nurses in the private home.

This experience is offered to the student in the latter part of her one year course. The student gains experience in at least two homes, each assignment lasting about two weeks. With the cooperation of the physician and the supervision of her instructor the student provides total patient care for the patient with convalescent or rehabilitative needs. The student is guided, at the beginning of the experience, in developing a nursing plan consisting primarily of short and long range objectives for her patient. The supervisor visits the home daily to analyze these objectives (*Figure 1*), the nursing approaches being used, and the patient's progress. At the end of two weeks the student summarizes the experience, re-evaluates her objectives in terms of the patient's progress, and makes suggestions for future care of the patient.

In the following narrative, Mrs. Florence Erlewine describes her own reactions to home nursing and the care she was able to give a patient whom we will call Mrs. Smith. Mrs. Erlewine, an older student, has reared her family and is now preparing to pursue another career, practical nursing.

Home Nursing was a unique nursing experience for me. In the hospital everything seemed so new and strange; in the home I felt at ease, for I'd had years of experience in homemaking. Here I felt I was in "my element," being able to use my abilities to the fullest. My patient seemed my very own responsibility; therefore, any progress she made gave me great satisfaction. Most of the time (all but an hour a day) I was without a supervisor except for my own conscience to tell me the things that needed to be done and see to it that they were done. The days, however, were too few and far too short to accomplish all that I had hoped.

Mrs. Smith, 46 years old, suffered a cerebral vascular accident five years ago which left her paralyzed on the

right side. Since then she has had open heart surgery and has been treated for mental illness. Her main occupation before the cerebral vascular accident was a housewife. She has a college degree in business.

Mrs. Erlewine discussed the patient with her supervisor and they formulated the following objectives: (1) engender hope; (2) raise self-esteem; (3) help

Nursing in the home is not just bedside care given in the home. It is meeting the total needs of the patient in his own home environment. Here, the student is able to direct all of her talents and ingenuity toward the care of one patient. Because of the challenge and the personal satisfactions in this area of nursing, many students after graduation, continue to care for patients in the home.

develop more satisfactory family relationships; (4) improve verbal communications, and (5) maintain good muscle tone, particularly of the affected side.

When I first met Mrs. Smith she appeared tired and dejected, and there was much room for improvement in her personal appearance. Her attitude was reflected in her face when she told me she wanted to die.

Engendering Hope

How does one instill the desire to make a small beginning? Mrs. Smith didn't seem to be living, only existing. She constantly compared what she was able to do now with what she was once capable of doing. If she continued to harbor these feelings, any hope for her rehabilitation was defeated. Through my own belief in her as a potentially capable person, I attempted to engender a sense of hope. Unexpectedly, Mrs. Smith seemed ready to learn, needing only encouragement and praise. Accomplishing small household tasks and eventually managing her own home became her own personal goal.

Raising Self-Esteem

I first began to approach this objective through the improvement of her personal appearance. I gave her a

* From the Florence Cook Department of Practical Nurse Education, University of Kansas Medical Center. Sandra Halldorson is an instructor in home nursing. Florence Erlewine is a student practical nurse.



Figure 1. Miss Sandra Halldorson, instructor in home nursing, visits a student in the home.

permanent, cut her hair, and set it in a becoming way. I helped her to apply makeup and found that it covered a facial redness about which she felt very self-conscious. She was quite pleased with the improvement and it brought a sparkle to her eyes that was not there before. What I wanted to accomplish most was for Mrs. Smith to go grocery shopping. This was an opportunity for her to get out of the house, see other people, become interested in meal planning, and perhaps, whet her own appetite for food. This goal was accomplished and it proved to be only the beginning of her social rehabilitation. She seemed to enjoy this excursion and her husband was very pleased with her selections and new ideas in foods. The short trip to the grocery store helped her to gain self-confidence and a sense of personal worth. Every day she seemed to have a greater realization of how many things she could do with one hand. She baked cookies, tried sewing and typing, and was able to carry out many housekeeping responsibilities. The performance of these tasks helped her, I feel, to gain self-esteem as she saw herself fulfilling the role of wife and mother.

Developing More Satisfactory Family Relationships

I tried to serve as a "buffer" between Mrs. Smith and her 13-year-old son. She was not always able to express herself and needed someone to explain her actions and reasoning to the boy. He was quick to anger, and she was easily hurt. It seemed that neither of these two were secure in their relationship with each other. He was too old to be playing all the time, and too young to get a job. At first he gave me instructions how his bed was to be made. I did not mind changing the linen, but

felt that this was a chore he was capable of doing himself, and told him so. After that, his mother reminded him to make his bed, and he did so. Since Mr. Smith was always at work, it was difficult for me to determine his relationship with Mrs. Smith. He telephoned daily to inquire about his wife. He related that he had difficulty understanding Mrs. Smith's speech, and asked me to work with her in this area.

Improving Verbal Communications

In addition to her confinement in a wheelchair, Mrs. Smith was handicapped by aphasia. She repeatedly lost patience with her inability to speak clearly, threw up her hands, and declared "I don't know." As a part of our daily schedule she read aloud to me from the newspaper, for about half an hour. We made a list of words and sounds which were most difficult for her to pronounce, and we reviewed these later on in the day. She wanted desperately to talk and to be understood.

Maintaining Good Muscle Tone

In giving passive range of motion on her affected side it was discovered that Mrs. Smith could lift her right leg about eight inches when lying flat on her back. This opened new horizons to her nursing care. Using me as a crutch, she was able to stand, put weight on the affected foot, and take several steps. From there we progressed to a walker which her husband rented. She was soon able to walk the length of the living room (about 15 feet) by herself.

Evaluating the Patient Care

Looking back, maybe I was too ambitious. Maybe I forgot at times that Mrs. Smith did not have the vigor I, myself, possessed. Yet, when she grew tired, I did not insist that she continue. Should I have been more the teacher to the boy, showing him little kindnesses he could show his mother? Should I have tried to improve his extremely poor manners? Would she have appreciated this as a help, or would she have felt hurt, seeing this as another reflection of her own inadequacy? Did I listen to her enough? Was I too quick to point out the folly of her negative thoughts and the need for a more positive way of thinking? Did I let my own enthusiasm run riot, forgetting her lack of strength, vigor, and endurance? I may have been expecting too much from her in too short a time. I needed to remind myself that she has been living with her physical handicaps for five years, and I was seeing them for only two weeks. To be a good nurse in the home, one needs to show empathy, enthusiasm, ingenuity, and humility.

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Degree Nursing Schools

Collegiate Education for Nursing in Kansas: Perspectives and Problems

MARY JO KASSELMAN, R.N., *Kansas City, Kansas**

BACCALAUREATE PROGRAMS in nursing have been developing in this country for the past 60 years. When first established, collegiate preparation was designed to prepare nurses for specialized roles in such fields as education, public health, and administration.

After the first college program for registered nurses was initiated at Teachers College of Columbia University in 1899, a dozen different kinds of nursing programs evolved which provided the nurse or the student of nursing with a bachelor's or a master's degree. These differed in admission standards, breadth of offerings, level of instruction, and degree requirements. Instead of building new programs of nursing education along the lines of other educational programs, there was a tendency to move the traditional hospital training school to university or college campus, often with few changes in philosophy, objectives, organization of learning activities or methods of teaching. In 1951, Dr. Margaret Bridgman in her report "Collegiate Education for Nursing" indicated that learning opportunities for the nursing student at the college level "were more apparent than real." Though our institutions of higher learning offered rich resources for the preparation of nurses in degree programs, she found that many colleges having nursing programs had not maintained for students in nursing, policies and standards equal to those in other professional programs leading to a baccalaureate degree.

These were the conditions with which nursing education was faced in 1949, the year that the accrediting activities in nursing education were unified. Since that time great improvements in collegiate nursing education programs have been made. New and academically sound programs have been established. Older programs have been reorganized in keeping with other undergraduate professional programs within the particular institution. Improvement in general has been due to several factors, one of which was the work of the National League for Nursing in promoting a school improvement program in 1952. Mainly, it is due to the faculties in our collegiate schools of

nursing who took it upon themselves to learn the policies and procedures of institutions of higher education and to follow them in building nursing programs. Newer and more effective methods of teaching and evaluation were employed. Students were taught at a level appropriate to their academic standing in the university.

With the changes through which medical care is progressing, degree nursing schools are assuming greater responsibilities. A résumé of the history and future of the school at the University of Kansas.

The same year that Columbia University's Teachers College established the first college program for registered nurses, the University of Kansas established the School of Medicine. In 1906, six years later, a training school for nurses as a department within the School of Medicine was authorized by the Board of Regents and the curriculum was patterned after those diploma programs already in existence in the United States and Canada. Four students were admitted in the first class of 1906. From this small beginning the Department of Nursing Education has grown to an enrollment of over 150 in 1963. In 1929, a five year program of general and professional education was arranged with the College of Liberal Arts and Sciences. The B.S. in Nursing degree was granted by the College of Liberal Arts and Sciences. During the middle thirties, a similar relationship was established with Kansas State University which made it possible for students to receive a combined degree of home economics and nursing. The year 1953 marked the graduation of the last class of diploma students. During the next five years, numerous minor changes were made in the curriculum, but in 1958, the basic curriculum was reorganized as a 45-month, or four calendar year, program. In 1959, the basic program achieved the status of an accredited collegiate nursing program by the National League for Nursing. In 1960, the

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department added the general nursing program, whereby graduates of accredited diploma schools of nursing could meet the requirements for the B.S. in Nursing. The general nursing program became accredited by the National League for Nursing three years later. Since 1961, all nursing degrees have been awarded through the School of Medicine.

The Department of Nursing Education believes that the nature of nursing and the responsibilities of a professional nurse demand personal integrity, intelligence, and a genuine desire to be of service. Nursing requires an understanding of human needs and the ways in which these needs are expressed. The nursing practitioner must understand the development of the individual and the factors affecting the total health of individuals in the community. She needs the ability to express her thoughts logically and clearly and to work successfully with others in maintaining health, in planning for care during illness, and in rehabilitation. She must have sufficient background in physical and biological sciences to understand the complex mechanism of the human body in both health and disease. Nursing requires the ability to analyze problems and plan effective programs of action for their solution.

To implement this philosophy the nursing curriculum at the University of Kansas requires a base of four semesters of liberal education on the Lawrence campus or at another college or junior college where comparable courses are offered. The minimum requirements of the nursing curriculum include the common undergraduate requirements of the College of Liberal Arts and Sciences. All students are admitted and enrolled in the Department of Nursing Education during the summer following their sophomore year.

The first course in nursing is an integrated course of anatomy, physiology and biochemistry which is taught on the Medical Center campus by the School of Medicine faculty. This is followed by four semesters plus two summers of clinical nursing theory and concurrent practice in all branches of nursing. The general nursing program for graduate nurses also requires 62 hours of liberal education, and the students spend one year in study of professional nursing courses on the Medical Center campus. While the university offers one degree in nursing, the aims and objectives are the same for both groups of students and the requirements are similar.

Another method employed to implement the philosophy of the department is the careful selection of clinical practice experiences for students. To provide suitable and satisfactory practice areas the department has working agreements with the Department of Nursing Service of the Medical Center and the public health agencies where students have ex-

perience. The basic philosophy and purpose of agreements are maintained and provide that: (1) students have opportunity to engage in learning experiences as necessary and desirable for the attainment of educational goals; (2) selection, evaluation, and supervision of learning experiences are the responsibility of the faculty; and (3) the department provides faculty, adequate in number and preparation to insure the use of learning opportunities in all areas of the curriculum.³

During the past ten years the percentage of prepared and experienced faculty has continued to increase. There are now 12 full-time and three part-time teachers having master's preparation. Beginning instructors with Bachelor's of Science in Nursing work closely with experienced teachers. To provide for recruitment into teaching of potentially good candidates, a few beginning positions are available for people without a master's degree. The maximum length of such appointment has been limited to two years.

The University of Kansas has an enviable record for the quality of its students. The high proportion of excellent students admitted to the university is reflected in the quality of students admitted to the Department of Nursing Education. For several years the class median on the University of Kansas placement tests has been well above the average. Because of the achievement demanded of students, the department will continue to vigorously recruit from this portion of the college-bound population in Kansas. Graduates with knowledge, creativity, sensitivity and imagination are needed in large supplies to fulfill nursing responsibilities in this era of atoms, missiles and space travel. The changes in social and cultural values and ideologies are reshaping the roles and responsibilities of all health personnel. If nursing is to keep pace it becomes increasingly apparent that the education of professional practitioners of nursing must fall within the framework of higher education.

The nursing profession has always been observant of the inseparable relationship between the quality of practice and the quality of education. When the functions of nursing were dependent and the principal requirement for practice was a high degree of technical competence, the major focus for raising standards of education was the improvement of diploma schools. Now that nursing practice has moved into new areas and positions have emerged where independent judgment in addition to technical competence are required, the collegiate environment is essential for the development of professional practitioners. It is in the colleges and universities that students have ready access to the basic sciences, the professional body of knowledge, the liberal arts and the scholarly milieu that is stimulating and challenging. Initially university programs in nursing, as heretofore mentioned, prepared nurses

as educators, administrators and as public health personnel, but because of the changing and more demanding character of all positions in nursing, baccalaureate degree programs are now devoted to providing a basic education for professional practice. Specialized preparation is acquired through graduate study.

An increasing proportion of students are securing basic professional education in baccalaureate programs while more than 10,000 graduate nurses annually enroll in supplementary programs which confer baccalaureate degrees. This voluntary seeking of expensive, time-consuming education by tens of thousands of registered nurses is evidence of the growing challenge and complexity of practice. It must be concluded that these registered nurses have found themselves inadequately prepared for this demanding practice.

Last year the Surgeon General's Consultant Group on Nursing presented some dismaying evidence and predictions. One of the concerns of the Consultant Group was with the inadequacy in numbers and educational preparation of the nation's present supply of nurses. It was predicted that by 1970 there will be 30 million more Americans than in 1962 and that there will be a corresponding increase in the number of older people with greater needs for nursing care. The levels of education and income will be higher. People will have more health insurance and will expect more medical and nursing services. The institutions and agencies which provide health services to the people of the United States will continue their rapid growth. New health programs and facilities will be developed. Each of these changes will increase the demands for high quality nursing service. If these many needs are to be met, schools of nursing must be expanded and strengthened. Thus, the development of enough well-prepared faculty members is a critical need in nursing. Experience has demonstrated that there is a very direct relationship between the quality and preparation of the faculty, and the quality of the nursing program. A need for advanced professional training for the teacher has become so well established, at even the elementary school level, that there would seem to be no question with respect to its importance to university nursing programs.

In 1962, there were 19,500 nurses employed as faculty members in professional schools of nursing. It is estimated that by 1970, to meet the expanding needs of these professional schools, there will need to be at least a 50 per cent increase in the number of nurse educators.

In the best judgment of the Surgeon General's Consultant Group, the nation should have some 850,000 professional nurses by 1970. The need for nurses pre-

pared for teaching and leadership positions is particularly critical and should have priority in planning. To meet this spectrum of needs, some 200,000 of the professional nurses should have at least a baccalaureate degree and another 100,000 should have graduate preparation. . . .

It is not feasible to reach this number in view of the number of potential enrollees in potential school capacities. Moreover, acceleration in numbers of nurses must be safeguarded by sound education if quantitative and qualitative improvements in nursing care are to be achieved. For these reasons, the Consultant Group believes a feasible goal for 1970 is to increase the supply of professional nurses in practice to about 680,000. To meet this goal, schools of nursing must produce 53,000 graduates a year by 1969, a 75 per cent increase over 1961. Such increase would require a major expansion in the facilities and teaching staff of all nursing programs which in turn will require very substantial financial assistance.¹¹

In view of the need for ever increasing numbers of well-prepared nurse practitioners, our system of collegiate nursing education faces an increasing challenge.

In 1958 a survey by the Kansas State Nurses' Association indicated, that by 1963 to meet the nursing needs of the Kansas citizens, there should be a minimum of 200 graduates a year from baccalaureate nursing programs. The department graduates approximately 60 each year. It becomes increasingly apparent that there is great need for more than one baccalaureate program within the Kansas boundaries. In addition there is a necessity for expansion of the one existing program. Caution must be exercised against the rapid proliferation of collegiate programs that are not soundly conceived for the sake of having programs that may be baccalaureate in name only. If new and expanded programs of nursing education are to be established where they are needed and in educational settings where they will thrive, it is essential that they be intelligently planned and that the number of prepared and experienced faculty is adequate. The increase of graduates from collegiate programs does not decrease the need for graduates from other types of nursing programs.

Today no health profession, health institution, or community health service really functions alone. The education of nurses, as well as other health personnel, must emphasize the interdependence of the professions in the provision of care and service. In addition to the consideration of the relationships between nursing education and the education of other health workers, the need for cooperation among adjoining geographic areas should be encouraged.

In the fall of 1963, the Department of Nursing Education enrolled 72 junior students, which was the largest class to be admitted in the history of the de-

partment. At the same time, 59 students were enrolled in the senior class and 23 full-time students into the general nursing program. The number of qualified applicants requesting admission into the fall of 1964 class continues to mount. With the existing facilities and the present number of prepared faculty, the problems of further expansion in enrollment seem indeed complex. In an effort to solve one of the problems of increased enrollment, the department has been using closed circuit television for lectures and demonstrations. It is hoped that through the use of the newer teaching concepts and methods that both teacher-time and learning-time would be reduced.

The mounting needs of collegiate nursing education in the state of Kansas reflect the challenges being faced by all other educational disciplines. In a report to the Board of Regents by a panel of advisors it is stated:

Kansas urgently needs for its further cultural and economic development and society needs, all the fully matured human resources the state can muster. . . .

Kansas mirrors America, its pasts, its hopes and especially its dreams for the next generation. Education is central to those aspirations and the universities are the capstones of the educational system. The future of this modern age will reflect in every way the strength of our institutions of higher learning.⁴

Kansas has not only untapped human resources but other material resources as well. To meet the chal-

lenge of the need for increasing numbers of college prepared nurses we must move ahead vigorously. Immediacy of action is imperative.

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CLEFT LIP, PALATE

Paternal age appears to be an important causative factor in the production of the congenital abnormality, cleft lip with or without cleft palate, reports Dr. Charles M. Woolf of Salt Lake City.

The ages of the parents at birth of 411 children with cleft lip with or without cleft palate were compared with the ages of parents selected randomly from birth certificates. "A parental age effect was demonstrated for this congenital anomaly. The risk of producing a child with this disorder is decreased in younger parents and increased in older parents," he said.

Previous investigators have reported finding a statistically significant positive relationship between maternal age and congenital clefts of the lip and palate, but not cleft palate alone.

When Dr. Woolf analyzed the ages of parents of the affected children, he found that "the father's mean age is . . . significantly higher, but the mother's mean age is actually lower than the mean age of the control group. It is concluded from these analyses that a paternal age effect exists for this anomaly."

One explanation for the paternal age effect, said the geneticist, is "Differential gametic selection with advancing paternal age. . . . However, differential mutation rate and accumulation of mutations with advancing paternal age should also be considered." Woolf, C. M.: Paternal Age Effect for Cleft Lip and Palate, *American Journal of Human Genetics* 15:389 (December) 1963.

Hospital Dietetics

Functions of a Hospital Dietary Department

ELIZABETH McCUNE and RUTH GORDON, *Kansas City, Kansas**

WHERE COULD I FIND a list of foods containing iodine? Does the cook really need another deep freeze? What can I suggest to the old gentleman who's "wasting away" because he can't "chew his eats?" Where can I get "one of those books with pictures that tells me what to eat" for Mrs. Johnson, a diabetic?

Do those questions sound familiar? All have something in common—these or similar queries might be answered by a qualified dietitian during any routine day.

Defining and Achieving Departmental Goals

Staff members of the Department of Dietetics and Nutrition at the University of Kansas Medical Center, like other Medical Center faculty, serve a unique function in the state of Kansas. Their purpose is two-fold: (1) to practice the profession of dietetics in a fashion that will set a high standard of performance; and (2) to train students who will become practitioners of dietetics. How does the dietetic staff of the Medical Center attempt to achieve these goals?

The practice of the profession of dietetics is generally divided into four areas: administration, therapeutics, research and education. These areas cannot, of course, be categorically separated one from the other. In a small organization one dietitian may be totally responsible for participation in all four areas. In a large organization, such as the Medical Center, one dietitian may concentrate her efforts in one area but will inevitably function to some extent in all other areas. Perhaps the best understanding of the functions of a dietitian and the department of which she is a member can be achieved by oversimplification—dividing her duties into these four areas.

The Dietitian as an Administrator

A dietitian is judged first by the kind of food offered patients and personnel at mealtime. The production of food is achieved primarily through application of scientific education to the many administrative and management functions. To do this, the dietitian must have knowledge of the quality of,

and specifications for, raw food; sources of supply of this food; principles of sanitation; methods of food storage; procedures for standardization of food production; methods for maintenance and operation of equipment; means of personnel employment, training and supervision; and methods of transportation and distribution of food. In addition, the administrative dietitian is trained to be proficient in planning menus,

The dietary department has varied responsibilities, and this outlines the administrative, therapeutic, research and educational phases, and their relationship to the work of the department.

writing specifications for and planning efficient layout of equipment; planning and implementing time schedules that harmonize with total hospital routines; exercising cost control, including planning and executing budgets. The dietitian in the administrative area must be able to look to the future and keep the dietetic department functioning well from the standpoint of the patient, the hospital administration and the entire staff.

Dietitians at the University of Kansas Medical Center are responsible for preparation of 4,500 meals a day, of which approximately one-third are served to patients. In addition to the patients who must be served foods of their choice at their bedside, patients in the psychiatric unit are served meals and snacks in two dining rooms, and children attending the Children's Rehabilitation Center eat lunch in a modified cafeteria. Occasional cook-outs, picnics, and parties are held for long-term patients from the pediatric, psychiatric, and chest disease units.

Meals for personnel and students are served in a cafeteria in the "F" building and in the student center. Short-order, all-night service for personnel has steadily increased in popularity since its inauguration in October, 1962. A faculty dining room opened a few weeks ago in a redecorated room at the student center. Hospital visitors use a snack bar at the student center and physicians and other medical personnel attending postgraduate courses are provided coffee breaks and lunch at the student center.

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The Dietitian as a Therapist

The physician is probably most familiar with the dietitian's role in the therapeutic area. She combines managerial and scientific information to plan normal and modified diets for the individual needs of each patient. The dietitian is a consultant to the patient and to the physician. She begins her work by compiling a food history from the patient, assessing his eating habits and food intake. This may be a useful tool to the physician in making a diagnosis and in prescribing treatment. Once the treatment has been prescribed, the dietitian uses her background in medical science, her knowledge of food composition, and her instinct for practical application to translate the physician's order into meal patterns and menus. These must be compatible with the patient's preferences, taking into account his economic, social and educational status. While the patient is hospitalized, the therapeutic dietitian supervises the requisitioning of food to meet his personal and medical needs and supervises its serving in an effort to make his hospital stay a stepping-stone for prompt return to home and community.

At the Medical Center, a staff dietitian is assigned to each major service. This gives a patient load of approximately 100 people. Each patient is offered a selective menu. In addition, the selective menu is further adjusted for individual likes and dislikes. The dietitian consults with patients daily and communicates with the physician when indicated by patient's needs. Critical information such as food intake for certain diabetic patients are recorded daily on the patient's chart for use by members of the medical team. The dietitian participates in staff conferences and patient rounds.

The Dietitian as a Research Investigator

Dietetic responsibilities in the area of research require a flair for detail, accuracy, and ingenuity. Research may be carried out in a formal setting such as a metabolic unit; or it may invade the areas of administration, therapeutics, and education in a more or less formal manner.

In the metabolic unit, the dietitian works closely with the patient, doctor, nurse, and chemist. She assumes some responsibility for assisting in the design of studies with nutritional aspects. When the design is approved, she uses her skill to devise menus that can be tolerated by the patient even when repeated daily for several weeks or months as may be required in balance studies. The food preparation area becomes a quantitative chemical laboratory because quantitative analysis must be applied to the patient's intake as well as his output. The dietitian assists in the collection of specimens and data and helps the patient correlate dietary treatment with other aspects of his total care.

Aside from the metabolic unit, formal research projects related to nutrition and dietetics may be designed and executed. Less formal studies are frequently conducted in all areas of dietetics in an effort to improve various aspects of the practice of dietetics.

Research activities of the Department of Dietetics and Nutrition at the University of Kansas Medical Center, have run the gamut indicated above. A staff member was assigned full time to the clinical research unit. She planned, equipped and now supervises the operation of the food preparation area in this unit. She is an active member of the research team which includes participating in staff conferences, in the design of research projects, and in the activities required to successfully complete the given project.

Another staff member is assigned part time to the home care unit, a research project financed by a United States Public Health Grant designed to show, through the participation of various medical and paramedical disciplines, the value of a coordinated service approach to patient care.

Each graduate student enrolled in the department is required to conduct original research as a part of the requirement for the Master of Science degree. Subjects under study currently are:

1. An investigation of the relationship between plasma amino nitrogen and nitrogen balance in obese adults during short periods of partial and total food deprivation.
2. The development of a screening device to be used as a part of the employment procedure for non-professional food service workers.
3. A study of the reasons for including nutrition and diet therapy in the nursing curriculum.

Completed studies include:

1. A study of the relationship of manual dexterity to job proficiency of the unskilled hospital food service worker.
2. Food color preferences of four-to-eight-year-old children.
3. A study of direct labor time in the dietary department of the University of Kansas Medical Center.
4. A comparison of calculated and analyzed sodium values in selected foods.
5. The effect of two concentrations of a low electrolyte formula on weight gain in premature infants.
6. A study of time and accuracy of measuring ingredients as affected by division of labor and arrangement of work area.

Less formal research that has been practically applied includes a food preference survey made on groups of patients and personnel. The results of this survey are used to determine the food items included in the selective menu offered at the Medical Center. Staff members participate regularly in a survey of food costs in the greater Kansas City area which is

used by the Council of Social Agencies to establish standards for budgeting finances of clients.

The Dietitian as an Educator

The function of the dietitian in the area of education, like research, may be formal or informal. Two formal educational situations in which dietitians frequently work are organized academic programs and out-patient clinics. Teaching dietitians plan, organize, and conduct programs designed to meet the specific needs of groups of students such as medical students, nurses, practical nurses, and adjunctive therapists. The clinic dietitian is concerned with the education of individual patients. She translates the physician's diet prescription into a workable plan based on sound nutritional practice, and then teaches the patient to work the plan. The clinic dietitian also takes an active part in community activities designed to improve nutritional status.

In addition to these formal educational responsibilities, the educational function of dietetics inevitably becomes a part of the administrative, therapeutic, and research areas. The administrative dietitian teaches employees to perform their assigned tasks. The therapeutic dietitian teaches more or less formally in contacts with patient and physician. The research dietitian teaches patients and co-workers to perform essential tasks in collecting and analyzing data. Every dietitian is, to some extent, serving an educational function as she selects her lunch in the hospital dining room. By example, she is teaching nutrition practices to her fellow workers.

Educational functions of the dietitians at the University of Kansas Medical Center are varied. The administrative dietitian holds daily instructional conferences with supervisors, cooks, and workers. She supervises on-the-job training of workers. The department is also responsible for an approved course of study designed to qualify non-professional workers to assume the responsibilities of food service supervisors. The therapeutic and research dietitians teach hospitalized patients sound nutrition principles during their daily conference and by example with menu planning. They participate informally in the education of medical students, student nurses, and student practical nurses. Teaching dietitians are responsible for formal classes and supervised clinical experiences related to nutrition and diet therapy for medical students, student nurses, practical nurses, and physical and occupational therapists. Clinic dietitians supervise the medical student as he applies dietetic principles to patient therapy as he will in private practice. The clinic dietitian also gives class and individual instruction to expectant mothers; and to patients with diabetes, weight control problems, and other nutritional irregularities.

All staff members are participating in the Dial-A-Dietitian project, a community telephone service by which the public can ask questions related to normal nutrition. Last year over 1,000 questions were answered by the Kansas City Dial-A-Dietitian Service.

The educational area of dietetics at the Medical Center is most closely identified with the second purpose of the Department of Dietetics and Nutrition—to train students who will become practitioners of dietetics. All staff members participate in the education of these students.

Preparation for Practice

The department offers two educational programs for dietetic students. Both programs are on the graduate level and require admission to the graduate school of the University of Kansas. One program is a combined hospital dietetic internship and master's degree. The other is a master's degree program for students who have previously completed a hospital dietetic internship. Students choose between (1) hospital dietary administration and (2) dietetics and nutrition as their major field of study. Completion of the program requires from one to two years and qualifies graduates for membership in the American Dietetic Association. Membership in this association distinguishes qualified members of the profession of dietetics.

The program of study includes graduate level classroom instruction, supervised clinical experience, and completion of original research as a thesis. This educational program, superimposed on an undergraduate background emphasizing social, physical, behavioral, and management sciences, enables the dietitian to successfully practice her profession. In so doing, she is prepared to assist the physician as an administrator of food service; as a consultant in therapy and research; and as a teacher of medical personnel, patients, and non-professional workers. Optimum use of her services lightens the work load of other team members and contributes to better patient care.

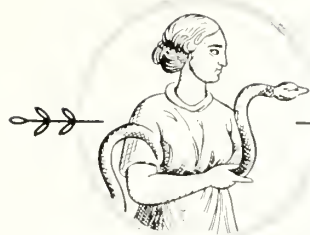
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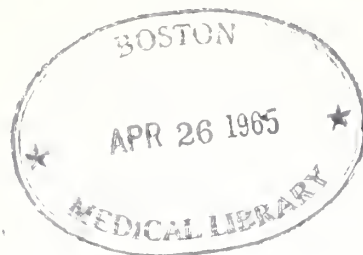
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Medical HISTORY



The Knights of St. John of Jerusalem

RALPH H. MAJOR, M.D., *Kansas City, Kansas**

THE RED CROSS, organized in 1864 largely through the efforts of Henri Dunant, has extended its healing hand to the victims of war, disease, famine and catastrophe for nearly a century. The charitable inspiration that created this great philanthropic organization and has guided its subsequent course is, however, no 19th century phenomenon. It had a precursor in the Knights of St. John of Jerusalem. When in 1099 the Christian Crusaders under Godfrey of Bouillon captured Jerusalem after a bloody assault, they were amazed to find, near the Church of the Holy Sepulchre (*Figure 1*), a hospital, that of St. John the Baptist, served by a devoted group of monks, who nursed their sick and wounded. The monks, who first called themselves "The Poor Brethren of the Hospital of

St. John," later became the Sovereign Order of St. John of Jerusalem, which has carried on its mission of mercy from the time of the First Crusade to the present (*Figure 2*), a period of nearly 900 years. Its history over these centuries is an almost incredible chronicle of devotion to mercy, of hardship, of courage, and valor.

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Liber Primus.



Figure 1. Jerusalem at the age of the Crusades, according to Pantalone. The domed Church of the Holy Sepulchre is shown in the background.



Figure 2. Modern dispensary of the Knights on the Via dolorosa.



Figure 3. Cross of the Knights of St. John of Jerusalem.

The Hospital of St. John of Jerusalem was founded in 1065 by a group of merchants from Amalfi, Italy, for the care of their compatriots on pilgrimages to the Holy Land. The first nurses were monks, who formed an order they called The Poor Brethren of the Hospital of St. John. They chose as their head Brother Gerard, since regarded as the founder of the order and of the hospital. Brother Gerard was in charge of the hospital when the Crusaders landed in Palestine but had been imprisoned by the Saracens. When Godfrey of Bouillon captured Jerusalem in 1099, he released Brother Gerard and showed him many marks of esteem and honor, and encouraged him to rebuild and enlarge his hospital. A large hospital was built near the Church of the Holy Sepulchre accommodating 2,000 patients. Brother Gerard reorganized his Poor Brethren into a regular religious order, which was placed under the protection of St. John the Baptist and named the Knights of St.

John of Jerusalem, or the Knights Hospitallers. They adopted a black habit adorned with an eight pointed white cross (*Figure 3*), which became the symbol of the order, respected by friend and foe alike. The color of the cross, white, signified purity, the four arms of the cross symbolized the Christian virtues of prudence, justice, fortitude and temperance, the eight points the Beatitudes. The Knights were monks but differed from ordinary monks in that they wore no cowl, only a cross (*Figure 4*). While they took vows of obedience and chastity, they took none of poverty. Their members were young noblemen, often extremely rich, and later membership was restricted to knights whose families had been noble for four generations. This accent on religion and nobility is in contrast to the Red Cross.

Brother Gerard was succeeded in 1118 by Raymond du Puy, a French nobleman, who was the first to be called Grand Master. He taught the Knights that it was not sufficient to nurse the sick and wounded but that the Knights must be ready at all times to protect their patients and, if necessary, to die for them. He armed the Knights and taught them the art of war. They proved apt pupils, so that soon we hear more and more of the valorous deeds performed by them on the battle fields and on the high seas. Yet, they never lost their original purpose, to nurse the sick and wounded, whether Christian, Jew or Muslim.

The Knights continued their work of mercy in Jerusalem, where their old champion Godfrey of Bouillon was now King of Jerusalem and continued his favors to the Order. Meanwhile, a second order of knights, founded in 1118, had appeared in Jeru-



Figure 4. Knight in convent dress (Painting by Pinturicchio).

salem, called the Knight Templars since they were granted the area where Solomon's temple once stood. They also built a hospital, and an intense rivalry developed between the two orders, which did not always exhibit the Christian precepts of charity and humility.

For a time things went well with the Latin Kingdom. It extended its borders until presently it ruled a territory from Beirut on the north to the border of Egypt on the south. The Saracens, divided and fighting among themselves, gave them no concern. The increasing prosperity of the Latin Kingdom caused grave conflicts, often bloody ones, however, among the Christian princes, ever ambitious for power and greedy for spoils. According to St. Bernard of Clairvaux, Jerusalem, the Holy City, was "swarming with an unruly rabble of rogues, impious men, robbers, committers of sacrilege, murderers, perjurers and adulterers." During the life of the Latin Kingdom, the Knights had extended their order far beyond the confines of Asia Minor. Pilgrims returning from the Holy Land had spread the story of the Knights Hospitallers through Christendom. The Count of Brandenburg had established it in his domains, in 1160; King David I of Scotland founded a branch in Tor-

pichen, Linlithgow, in 1124. In England, it was established at Clerkenwell early in the 12th century; in Kilmarnham, Ireland, in 1174; and in Verona, Italy, in 1150.

Meanwhile, a great leader had appeared among the Saracens, the redoubtable Saladin, who united the quarrelling groups of Muslims and inspired his followers with the zeal of crusaders determined to free the Muslim Holy Land from the Christian infidels. Bit by bit, he reconquered territory from the Latin Kingdom, and, after the disastrous battle of Gaza (where only 18 out of 200 Knights of St. John survived) and the defeat at Tiberias, Saladin swept on and captured Jerusalem on October 2, 1187. Saladin was both magnanimous and merciful, in marked contrast to Godfrey de Bouillon, who had massacred the inhabitants regardless of age and sex. Saladin allowed the Christian garrison to march out with the honors of war and permitted the Hospitallers to leave ten Knights to care for the wounded. "There was not a prince in all Christendom," writes Colonel King, "who would have treated a Moslem city as Saladin treated Jerusalem."

The Christians retired to Acre (*Figure 5*), which the Crusaders had captured about 1100 A.D. It had



Figure 5. Wall of fortress at Acre (photo 1959).

become an important seaport, and the Knights Hospitallers had built a large hospital there. The pressure from Saladin's army continued irresistible, and, in 1291, Acre, with a population of 40,000, surrendered. The Knights Hospitallers, under their leader, Jean de Villiers, fought their way to the harbor, where they boarded a galley headed for Cyprus, their next home.

Soon after the arrival of the Knights Hospitallers, members of the Order from England, Scotland, Ireland, France, Italy, Spain and Germany sent knights and large sums of money to help the Hospitallers establish themselves in their new home and to assist the Grand Master de Villiers to build his fourth hospital. A new era dawned for the Knights. Situated at one of the crossroads of the Mediterranean, they recognized the need for sea power. A large and powerful fleet was built.

In 1309, the fleet of the Knights, at the instigation of the Pope and of Genoese merchants, took possession of Rhodes (*Figure 6*), and the first golden epoch of the Knights began. The object of the Pope and the Genoese merchants was to establish in the Eastern

Mediterranean a powerful Christian outpost against the encroaching Turks. Soon after their arrival in Rhodes, their old rivals, the Knights Templars, were suppressed by the order of Philip IV of France, with the acquiescence of Pope Clement V, and their property in France given to the Knights Hospitallers.

Rhodes flourished under the Knights, grew wealthy and powerful. The fleet of the Knights, with other corsairs of the Mediterranean, chiefly Italian, carried on raids along the Turkish coast and captured on the seas many Turkish ships laden with rich merchandise. The Order became rich and powerful. It built a handsome cathedral, a magnificent castle for their Grand Master, and auberges or hostels for the Knights of the various Langues or nations. Eight Langues were recognized: Provence, Auvergne, France, Italy, Aragon, England, Germany and Castile. Many of these auberges were along the famous Street of the Knights and are still intact.

The Infirmeria or hospital (*Figure 7*), which was completed in 1478, was a benefaction of the Grand Master Fluvion, who died in 1437, leaving his fortune for this purpose. This hospital may be seen today much as it looked after its completion in the 15th century. There is a rectangular court (*Figure 8*) around which runs a balcony on the second floor, onto which open numerous small rooms. From the balcony we pass into the Great Hall (*Figure 9*), a large rectangle 150 feet long and 36 feet wide. In the court are several small piles of stone cannon-balls, mute reminders of the ancient Knights prowess in war. Indeed, the Infirmeria has the impress of a fortress.

The Infirmeria was a hospital in the modern sense. It received patients of both sexes, including abandoned infants, and apparently had separate rooms for quarantining patients. On admission to the hospital, each patient was required to bathe, take communion, and make his will. The physicians, who served on the staff, were required to visit each patient twice daily, accompanied by a nurse and pharmacists. The brothers of the Order were also obligated to call on the patients each morning and evening and had charge of the linen.

In addition to the auberges and the great hospital, many public buildings and palaces were constructed. Rhodes seemed to have returned to the days of its ancient Hellenic glory. The fleet of Rhodes carried on active trading throughout the Mediterranean area. Although carrying on trade with all nations, they were still the outpost of Christianity in the East, the mortal enemies of Islam. They harassed the coasts of Asia Minor in company with the notorious Mediterranean pirates, raiding cities and capturing merchant vessels, the rich spoils of which they carried home in

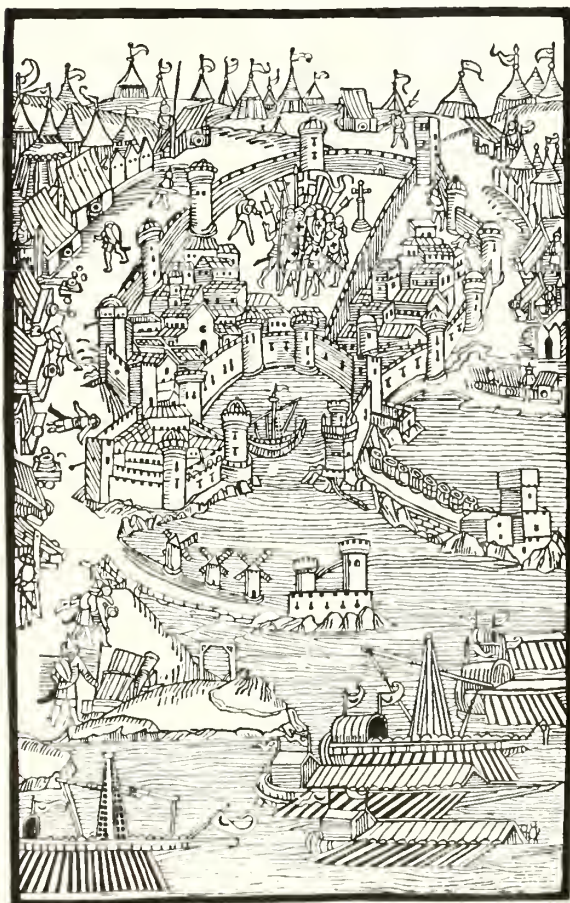


Figure 6. Rhodes (medieval print).



Figure 7. Old hospital at Rhodes (photo 1956).

triumph. In 1480, Muhammad II attacked Rhodes, but was repulsed. Some 40 years later, the Turks under the leadership of the greatest sultan in their history, Suleiman, the Magnificent, again attacked Rhodes. According to the story, Suleiman, like his predecessors, had long been annoyed by depredations on Turkish shipping, but he was personally greatly annoyed when a large galley loaded with precious objects of gold and gorgeous carpets and hangings destined for the Sultan's harem was captured by the Knights. Suleiman attacked Rhodes with an army of 200,000 men, supported by a fleet of 700 vessels. Opposed to this large force were 300 Knights and an equal number of squires, about 5,000 mercenary soldiers, and several thousand Rhodians. Despite the disparity in numbers, the Knights held out for six months and were then compelled to surrender. The day after Christmas, 1522, Sultan Suleiman entered Rhodes in triumph. It is pleasant to record that there were no massacres, that the Knights were allowed to leave the city with the honors of war, marched down to their vessels accompanied by all Christians who wished to leave with them, and all sailed away unmolested.

The Knights, when they sailed from Rhodes, had high hopes they would soon return. After all, they were the farthestmost Christian outpost, which faced

the slowly and inexorably advancing tide of Islam. They hoped that Charles V, the powerful monarch of Christendom, would now come to their aid. However, Christendom itself was not united. Charles V and Francis I were engaged in a fierce struggle for the mastery of Europe, and Francis, although a most strict or even intolerant Catholic in his native France, had an alliance with the Turkish Sultan Suleiman. The wily Charles, playing for greater stakes than Rhodes, was a masterpiece of inaction.



Figure 8. Great hospital or Infirmaria at Rhodes (photo 1932).



Figure 9. Great Hall of Infirmary at Rhodes (photo 1956).

The Knights wandered at sea for seven years (1523-1530). One of their galleys was converted into a hospital ship after leaving Rhodes. Whenever the news came of a disaster or of an epidemic, they sailed thither and nursed the sick. At Messina and Viterbo, they established hospitals. In the course of their wanderings, they visited Candia, Marseilles, Baia, Civit  Vecchia, Villefranche and Nice.

The Grand Master of the Order at this time, Philip Villiers de l'Isle Adam, recognizing that a return to Rhodes was hopeless, begged the Emperor Charles V for the Malta group of islands as a home for the wandering Knights. Pope Clement VII seconded this request. The petition was sent to the Emperor in 1525, but Charles, always cautious as well as crafty, waited until 1530 when he gave Malta, the principal island, the small nearby island of Gazo, and Tripoli to the Knights.

In July, 1530, the squadron of the Knights of St. John, flying their ancient banner, an eight pointed white cross on a red background, sailed into the harbor of Malta. The island of Malta was quite accustomed to changing masters, having been in the course of history Phoenician, Roman, Arab, Norman and Spanish. Now the island came under the rule of the Knights of St. John of Jerusalem. They made their entry with regal splendor into Natabile, the ancient capital.

The Knights' treasury had been sorely depleted by the seven years of wandering, and their first building efforts were modest. One of their first acts was the

erection of a hospital near Fort St. Angelo (*Figure 10*). Ever mindful of the constant Turkish menace, the Knights constantly improved the defenses of the island, strengthening the forts and increasing their supply of arms and ammunition. The Knights also began rebuilding their fleet, and there were constant sea fights with the redoubtable Arab corsairs.

Malta was now the Eastern outpost of Christianity. It stood in the way of the advancing Turks. When La Valette became Grand Master in 1557, he knew the only question was when the Turks would strike. Turkish arsenals were feverishly at work, and a vast armada was under construction. On May 18, 1565, the Ottoman forces arrived before Malta, 130 galleys with 50 transports carrying 40,000 troops. Against this formidable array, the defenders could muster only 8,000, which included 600 Knights. On May 18, 1565, the siege began, one of the most famous sieges of modern history. The incredible happened. The Knights' army under the leadership of the Grand Master, La Valette, repulsed all attacks, and the Turks, after besieging Malta for more than four months, retired, having lost three-fourths of their army. The Knights lost 240 of their original 600.

The victory at Malta gave great hope to the Christian world, fearful of the Muslim sweep westward. Christians rejoiced everywhere in Christendom. A new capital was established in Malta and named Valletta after the heroic defender of the island Grand Master, La Valette. The princes of Europe, filled with admiration for the courage of the Knights and their

successful defense of the island, showered large sums of money on the order, and a handsome new city was built up in the course of a few years. Many of the Grand Masters were men of great wealth. Grand Master La Cassière (1573-1578) built the Cathedral of St. John and the Master's Palace at his own expense. During his tenure as Master were built the handsome Auberges of Aragon, Italy, Auvergne and Provence, counterparts of those buildings on Rhodes. The greatest building achievement of La Cassière was the construction of the great hospital, the *Sacra Infirmaria*, one of the most famous hospitals of history. The great hospital was notable architecturally, for the Great Ward was 503 feet long, 34 feet ten inches wide, with a ceiling 30 feet 6 inches—one of the greatest interiors in the world.

A new Golden Age, like that on the island of Rhodes, dawned for the Knights. Their galleys roamed the seas carrying on trade and also capturing any stray Turkish vessel that happened by, carrying the rich booty home to Valletta, where it was divided between the Cathedral and the hospital. In the Battle of Lepanto in 1571, the Knights fought heroically. Their flagship was captured with great loss of life, but the Christians were victorious, and the Knights shared in the glory. One hundred forty Turkish vessels were captured, and 8,000 Christian slaves liberated. The Knights continued to be the bulwark

against Turkish domination. In 1656, the combined fleet of the Knights and of Venice defeated the Turkish navy at the Battle of the Dardanelles, destroyed their entire fleet, and released 7,000 Christian prisoners. This ended the Turkish menace, and the Christian powers for the first time in 400 years breathed easily.

The Order continued to prosper, to grow in prestige and power. Its galleys roamed the Mediterranean usually in peaceful trading enterprises, but often they captured richly laden Turkish merchantmen or raided Turkish towns near the sea, and brought great riches back to Malta. A choice part of the spoils was always reserved for the Cathedral, which became famous throughout Christendom for the magnificence of its altars, its statues, and its tapestries. Some of this magnificence still exists, enough to indicate its former glory. Yet the Knights never forgot their primary mission—to nurse. Many travellers visited Malta in the 16th and 17th century. Invariably they mentioned the Knights' hospital and the great work of mercy performed there. Malta presently became more than a colony of Knights. It became a sovereign state with its army, navy and diplomatic representatives.

The Knights of Malta, as they now were usually called, had many problems during these years of material prosperity. France, England, Spain, Italy, and Germany were often at war, a state of affairs that



Figure 10. Ruins of Infirmaria at Malta (photo 1959).

sharpened relations between the Knights who were natives of these countries. In addition, there were religious conflicts caused by the Reformation. The Knights, staunchly Roman Catholic until this time, saw their brother Knights in England, Scotland, Prussia, Scandinavia and Switzerland adopting the Protestant faith. Yet the bonds held, and no disruption of the Order took place. The Knights in predominantly Protestant countries remain Protestant.

While Suleiman the Muslim was unable to conquer Malta, Napoleon the Christian was able to accomplish it with ease. Napoleon wanted Malta as a stepping-stone to Egypt, the conquest of which he was planning. Also, he knew of the wealth of Malta and his fingers itched for loot. In 1798, Bonaparte, with the entire French fleet, appeared in the harbor of Valletta and demanded the surrender of Malta. Two days later, the Knights capitulated. Napoleon helped himself liberally to the treasures in the Palace and in the Cathedral and took them aboard his flagship *l'Orient* for shipment to France. Later *l'Orient*, sunk by Lord Nelson at Aboukir Bay, went with its treasures to the bottom of the ocean. Since that time, numerous expeditions have been planned to recover the treasure, the last attempted was in 1910. This year (1960) another attempt, it is reported, will be made.

Malta was occupied on June 15, 1798. The Grand Master and 16 Knights left for exile while the other Knights were sent back to their countries of origin by the order of Bonaparte. The Knights had been in possession of Malta 267 years.

The next denouement was perhaps the most unexpected in the exciting, rapidly changing history of the Order. On October 27, 1798, some four months after the French occupation, Paul I, Czar of Russia, was proclaimed Grand Master of the Order. This choice was not in accordance with previous precedents since the new Grand Master was married, was a member of the Greek Orthodox Church, and, in addition, there was no provision in the statutes of the Order for the removal of the Grand Master because of exile. However, Pope Innocent VI, the only one who could lodge an official protest, was, at that time, the prisoner of Napoleon in Siena. Later he refused his consent and, since that time, has appointed the Grand Master.

Meanwhile the fortunes of war were going against Napoleon. His fleet had been destroyed at Aboukir, and the Egyptian campaign was a failure. Two years after the French conquered Malta, they capitulated to the British. It has remained British since. The Order, after establishing temporary headquarters in Catania and then in Ferrara, moved in 1834 to Rome, where it has since maintained its headquarters.

Stripped of its former territories in Rhodes and

Malta, its rich properties in France, England and Italy confiscated by greedy kings or plundering populates, the Knights of St. John of Jerusalem, in their modest palace in the Via Condotti in Rome, have not forgotten that they are first and foremost a nursing order, founded to alleviate suffering. They have sent doctors and nurses to every war since the Crusades, including the first and second World Wars. Every disaster caused by floods or earthquakes, every great epidemic of the plague or smallpox or influenza has seen the Knights active in the work of mercy. In recent years, they have devoted themselves especially to the nursing of lepers and have established numerous leprosaria in Africa. The Knights sponsored the International Congress on Leprosy held in Rome in 1956.

The Knights of St. John of Jerusalem are today more than 900 years old. With all the ferocious battles the order fought for Christendom, with all its piratical forays against the Muslim unbelievers, it has remained true to the ideals of its founders, to nurse the sick and wounded whether friend or foe. Their military glory belongs to history. However, they wear their uniforms on one great occasion—the election of a Pope. On this memorable occasion, they form the guard of honor to the conclave of cardinals, who elect the supreme pontiff.

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Women in Medicine

From Dr. Porter to Dr. Metcalf: A Sketch of the First Ten Women Members of the Kansas Medical Society

PHOEBE PECK, *Kansas City, Kansas**

If anybody thinks the physicians of Kansas are a set of old fogies, who believe in the divine right of the male sex to a monopoly of the pill-making and powder-mixing business, let him change his mind immediately . . .¹

WITH THESE WORDS, a local newspaper announced the election of Dr. Francena E. Porter² to membership in the Kansas Medical Society. At the annual meeting of this Society on April 9, 1872, Dr. Porter and five men were proposed for membership. The gentlemen were immediately elected, but not so fast was the doctress admitted. A resolution was passed that the Board of Censors report favorably on the credentials of Dr. Porter if the standing of the Woman's Medical College of Pennsylvania, from which she had graduated four years before, be recognized. After a long discussion, a vote was taken with 20 yeas and 5 nays. On motion, the election was made unanimous; and Dr. Francena Elizabeth Porter, of Lawrence, was introduced and signed the constitution.

"This is the first instance, we believe," the newspaper boastfully continued, "of a woman being admitted to a state medical society, and it is a gratification to know that Kansas sets the example in this as in other matters of progress."³ The newspaper was quite right in its boasting; it could have even added that Dr. Porter won this honor of being the first woman to be admitted to a state medical society by a photographic finish. One month later (in May, 1872), a woman became an honorary member of the Medical Society of North Carolina; moreover, in the next month, three women were elected members of the Michigan State Medical Society. In December of the same year, one woman was elected to the Rhode Island Medical Society although the legality of the action was not to be decided for another three months. Perhaps it should be noted that as early as 1871 the Pennsylvania Medical Society first voted to permit female physicians to become members; but no woman was admitted until six years later—and the Massachusetts Medical Society, starting its discussion on the subject in 1872, took seven years to admit women and another three years to reach a final settlement.

At her first meeting, Dr. Porter was made, with two men, a member of the regular committee on obstetrics. The next year, her name is missing from those in attendance; but she continued as a member of the same committee with two other men. She was among those present at the 1874 meeting and read a paper on salivation in pregnancy. This would be the first paper presented by a woman physician at a

Who were the first women members of the Kansas Medical Society, what did they do, and what happened to them, especially the first one? These questions have often been asked of the Department of History of Medicine, University of Kansas Medical Center, and this paper attempts to answer them.

meeting of the Kansas Medical Society; and it could be the first paper presented by a woman physician at any state medical society meeting. Although Dr. Porter's work was referred to the committee on publication, it did not appear in the *Transactions*. In its place presumably was published "Diseases of Women" by J. H. Stuart. (Dr. Stuart had been admitted to membership the same time as Dr. Porter; both practiced in Lawrence.)

Dr. Porter was appointed a delegate to the American Medical Association convention in Louisville for 1875; but her name is not included in the list of Kansas delegates who attended, and apparently she did not go. If she had been at that session, another "first" could well have been hers. It was at the A.M.A. meeting the next year (1876) that Dr. Sarah Hackett Stevenson, of Chicago, was given the right to a seat, and thus became the first woman member of that organization.

Around 1877, after five years' practice in Lawrence, Dr. Porter moved to Massachusetts, the state of her birth. She practiced in Worcester for a quarter of a century and died in Reading in 1905 at the age of 71. Her name is not included again in the Kansas Medical Society's *Transactions*.

* Department of History of Medicine, University of Kansas School of Medicine.

In 1876, the second woman, Dr. Emily Brooke (always recorded as E. B.) Slosson was admitted to the Society, along with six men. Dr. Slosson, a graduate of the Woman's Medical College of Pennsylvania the year before, was immediately made a member of the special committee on syphilis ingenua, a committee that was dropped the next year. She attended the meeting in 1879 and became a committee of one on infantile diseases. Dr. Slosson's husband was a businessman, merchant and lumber dealer. She herself was especially interested in neuropsychiatry, wrote many articles of local interest on pioneer and church history, and continued to practice medicine in Sabetha until her death in 1938.

In 1879, seven years after Dr. Porter's admission, Dr. Martha P. T. Wagstaff, a graduate of the Woman's Hospital College of Chicago, became the third woman member. At the same time, some 95 men were also elected to membership. Dr. Wagstaff was her first year appointed a committee of one on scarlatina. The wife of an agricultural implement dealer, she devoted herself to the practice of medicine in Hiawatha and was an active church member. She later (in 1884-5) moved to Los Angeles, California.

In 1881, at the 15th annual meeting of the Society, 39 men and 3 women physicians were admitted. At the first session, the Board of Censors reported favorably on the admission of Dr. Nancy S. Welles, of Topeka, a graduate of the Woman's Medical College. The next afternoon, the ballot was ordered in favor of Dr. Deborah K. Longshore (*Figure 1*), also of Topeka, a graduate of the same school. And, that

evening at the last session, membership was given to Dr. Emily A. Hammond, also of Topeka.

Nothing more can be found in the Society's activities concerning Dr. Welles and Dr. Hammond. The point here is that it was Dr. Longshore who became the prominent member. She attended the meetings and was elected second vice-president in 1883—the first woman officer of the Society; she became a member of the special committee of one on diseases of children and of the regular committee on the practice of obstetrics. At one meeting, she joined in a lively discussion on the subject of dyspepsia—"the sooner dyspepsia was classed among nervous diseases," she declared, "the sooner it could be properly treated." The minutes read that, in conclusion, she "importuned the physician to urge on their lady patients to spend more time out of doors."⁴ In 1882 and 1887, Dr. Longshore was made a delegate to the A.M.A. meetings. Her husband was at one time assistant secretary of the Kansas State Board of Agriculture. She died in 1919 after having retired about 1909 from 30 years' practice in Topeka.

In 1884, Ruth M. Wood, a graduate of the University of Wooster Medical Department, Cleveland, Ohio, was admitted, with 14 men, to membership and was made a member of the special committee on gynecology. The next year, she made a verbal report from her committee on the use of electromassage and also became a member of the nominating committee. Both in 1884 and 1885, she was chosen as a delegate to the A.M.A. conventions. She practiced in Leavenworth and then in Kansas City and later (in 1891) moved to Lincoln, Nebraska.

Dr. Laura M. Pratt, of Salina, was admitted in 1885 to membership, along with 19 men. Her name appears no more.

In 15 years, eight women had been recognized as members, and then Dr. Sarah C. Hall (*Figure 2*) was finally admitted. As early as 1871, Dr. Hall, a graduate of the Woman's Medical College, had attended a meeting of the Bourbon County Medical Society in Fort Scott. Her presence at once started a spirited controversy. Two doctors were sure that nothing in the usages of the A.M.A. or the Kansas Medical Society would have countenanced the withholding of all the benefits and privileges of their organization from anyone, no matter what their "sex, race, color, or previous condition of servitude." Three other doctors held contrary views. A motion was made that a committee be appointed to determine whether a representative from the Bourbon Society be admitted to the State Medical Association and if women were members of that Society. Meanwhile, the county group denied the right of membership to women.⁵ Finally, in 1887, the name of Dr. Hall, with the names of 18 men, was reported upon favorably by the state Board of Censors. All were duly elected.



Figure 1. Dr. Deborah K. Longshore. Courtesy of Stormont-Vail Hospital, Topeka, Kansas.

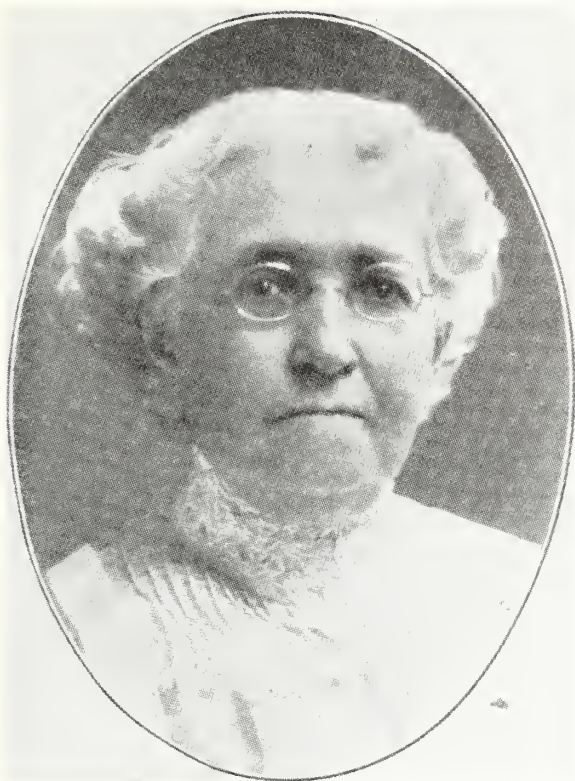


Figure 2. Dr. Sarah C. Hall. From Men of Kansas, a collection of portraits. . . . Topeka, The Topeka Capital, 1908, p. 430.

Dr. Hall lived with her husband, a cabinet maker, in Fort Scott. She practiced there from 1870 to 1911, served as president of the county medical society (which had once rejected her), was interested in woman suffrage work, the Unitarian Society, Women's Relief, and various other organizations—thus proving what she believed—that “women could have both careers and a home, provided she had the right kind of a husband.”⁶ In 1926, she died in Elgin, Illinois, at the age of 93.

In 1888, Dr. Adeline B. Metcalf, of Topeka, was admitted as a member of the Society, along with 40 men. Her name was not found again in the minutes.

It is true that a few more women physicians were certified by the examining board of the Kansas Medical Society in 1880-81. It is equally true that several women physicians, serving in their communities, did not join the state organization. As far as the Society's membership was concerned, by the time the 1888 roll was compiled, all the names of the women doctors, except those of Dr. Porter and Dr. Pratt, were still there. It has been written about women in medicine—“American women, widely separated territorially, have associated themselves more generally with their local medical units and their progress in the profession has been rather a matter of fact.”⁷ In this progress, physicians of Kansas truly set a fine example.

Acknowledgments

I wish to thank for their kind assistance Dr. Ralph H. Major and Dr. L. R. C. Agnew, both of the University of Kansas Medical Center; Dr. Henry Aldis, of Fort Scott, Kansas; and Miss Alberta Pantle, Librarian, Kansas State Historical Society, Topeka. We wish also to thank Mrs. Zula Bennington Greene, of Topeka, for sending us a copy of her very interesting and complete study on “Kansas Women of Medicine.”

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The President's Message

DEAR DOCTOR,

Random News and Recent Happenings!

A short time ago a rather large committee meeting was held in Topeka. The committee was made up of the chairmen of various specialty groups of the Society along with the officials of the Highway Patrol, the State Highway Commission and other officials, including some from Washington.

This group is attempting to begin a serious study of the increasing fatalities and injuries on the highways.

Two weeks ago a combined meeting of the doctors and hospital administrators was held with the idea of determining the rise of hospital costs in various phases.

There was also a joint meeting of the Hospital and Medical Society Commission, at which time certificates of approval were granted to six additional small hospitals. These certificates are for one year and the hospitals will be checked during the year.



Sincerely,

H. St. Clair O'Donnell M.D.

President



Farmers and Medicare

(The Kansas Farm Bureau sent the JOURNAL the following article written by Creston J. Foster, news director of the American Farm Bureau.)

To anyone who wonders why many farmers are opposed to increasing social security taxes to pay for medical care, one of the answers can be found in the boost in the self-employed tax rate.

Under proposed legislation, the farm operator would have to pay \$301.60 in 1965 as compared with \$259.20 now, and in 1968 and after, it would climb to \$379.60 annually. The 1968 payment is based on a rate of 7.3 per cent on a maximum earnings base of \$5,200, as compared with the current \$4,800 base.

You don't have to be a whiz at arithmetic to figure that some farmers would be paying more in social security taxes than in federal income taxes. This would be an additional burden on a group that is already paying a stupendous and ever-increasing property tax. When you look at the tax bill that many farmers have to pay on every acre before they even start to think about the ordinary production expenses of planting and harvesting a crop, it appears that agricultural producers are working mostly for the tax collector.

Most people don't realize it, but the social security tax rate on the self-employed has risen six times since 1953, and even without new legislation the tax will go up again in 1966 to 6.2 per cent and in 1968 to 6.9 per cent.

The rate of 6.9 per cent for 1968 and thereafter, represents an increase of 207 per cent since 1953, and under the new proposal for medical care, the rate would go to 7.3, or an increase of 224 per cent in the same period.

What's to stop the rate from being increased after

1968, or even before that year is reached? Absolutely nothing but public opinion and that hasn't proved much of a safeguard up to the present. The Social Security Act of 1935 has had 65 amendments with as many as 17 amendments in one Congress.

Employees can't be expected to raise much clamor because the social security tax, like the federal income tax, is deducted from their paychecks. This has proved to be a fairly painless method of extracting taxes. It is quite different from having to write a check for the total amount as farmers and other self-employed must do at the end of the year.

To a farmer with a net income of \$5,000, a bill of \$260 to \$330 under the current rate, is not a small item. Under the proposed legislation, an annual bill of \$379.60 to pay out of a net of \$5,000 in 1968, can mean the denial of many needed purchases.

Aside from the cost, the proposed medicare offers little in return to those who would pay into it for a long period of years.

Private insurance groups can do a better job of providing health insurance to the aged. As for those among the aged who cannot pay for medical care, the Kerr-Mills law enacted in 1960 has proved of great benefit. It is estimated that more than 93 per cent of the 17.5 million aged 65 and over, live in states which have strengthened their medical assistance program for the aged through Kerr-Mills legislation.

World Medical Association

The World Medical Association is composed of doctors from all over the world.

The United States is responsible for the major

portion of the expense entailed in carrying on this worthwhile organization.

The component members are the national medical associations of all the free countries of the world. Iron curtain countries which have no free medical association may not become members.

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It is entirely distinct from WHO which is a United Nations organization.

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You, your wife and friends may join the United States committee of the World Medical Association for \$10 each. Dues are tax exempt and include subscriptions to *World Medical Journal*.

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The annual meeting this year is in New York City, October 13-19. Besides the assembly meetings, a scientific program will be presented on "Frontiers of Medicine."

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L. S. NELSON, M.D., *Chairman*
Kansas Committee

NOMINATING COMMITTEE

The Nominating Committee met in Topeka on Sunday, February 2, 1964, and submits the following names as candidates for the elective offices of the Kansas Medical Society:

President-Elect

George E. Burket, Jr., M.D., Kingman. Born in 1912. Graduated from Kansas University School of Medicine in 1937. Has held various offices and was chairman of Society committees.

First Vice President

James A. McClure, M.D., Topeka. Born in 1918. Graduated from Kansas University School of Medicine in 1944. Has served as councilor and chairman of Society committees.

Second Vice President

Abraham M. Cherner, M.D., Hays. Born in 1910. Graduated from University of Chicago

School of Medicine in 1936. Is currently councilor and has served on Society committees.

George F. Gsell, M.D., Wichita. Born in 1907. Graduated from Rush Medical College in 1933. Has served as councilor and AMA Delegate.

Dick B. McKee, M.D., Pittsburg. Born in 1896. Graduated from Kansas University School of Medicine in 1928. Is currently serving as councilor and has been on Society committees.

Edward J. Ryan, M.D., Emporia. Born in 1912. Graduated from Kansas University School of Medicine in 1936. Has served as councilor and president of Kansas Blue Shield.

Emerson D. Yoder, M.D., Denton. Born in 1914. Graduated from Kansas University School of Medicine in 1949. Is currently serving as councilor and has served as committee chairman.

Secretary

Leland Speer, M.D., Kansas City. Born in 1912. Graduated from Kansas University School of Medicine in 1936. Is currently serving as Secretary.

Treasurer

John L. Lattimore, M.D., Topeka. Born in 1894. Graduated from Fort Worth School of Medicine in 1918. Is currently serving as Treasurer.

AMA Delegate

Lucien R. Pyle, M.D., Topeka. Born in 1901. Graduated from Rush Medical College in 1928. Has been president of the Kansas Medical Society. Is currently serving as AMA Delegate.

Alternate AMA Delegate

J. Warren Manley, M.D., Kansas City. Born in 1907. Graduated from Kansas University School of Medicine in 1940. Is currently councilor. Has served as committee chairman.

Robert Sohlberg, Jr., M.D., McPherson. Born in 1905. Graduated from Northwestern University School of Medicine in 1934. Has served as committee chairman.

Evan R. Williams, M.D., Dodge City. Born in 1925. Graduated from Northwestern University School of Medicine in 1952. Is currently councilor and has served on Society committees.



Blue Shield

Dental Services Rider Being Studied by Blue Shield

Growing interest by unions and professional associations in plans for prepaid dental benefits has been a developing trend since 1960. The emergence of a number of commercial insurance programs catering to this interest has paralleled this trend. In the past three years, subscription in plans for dental coverage has more than doubled with the result that nearly two million persons are now enrolled in such a program.

Some Blue Cross-Blue Shield Plans have already begun to experiment in the field. One of these—the Albany, New York Plan—has expanded its dental program to a relatively large number of subscribers.

Motivation stems from two major concerns:

1. That it would be unwise to ignore the possibility of competitive disadvantage such as might occur with the advent of "package health programs" from other underwriters, and
2. That if such programs become prevalent in future years, it would be advantageous to Blue Shield and the medical profession to enlist the support of an allied profession such as dentistry in the common goal of a professionally directed prepayment of health care.

The recent expression of interest in dental programs by Kansas industries and associations has brought a degree of local significance to this question. For these reasons, Kansas Blue Shield, working in cooperation with a Special Dental Committee of the Kansas State Dental Society, has been exploring the possibility of an optional group rider covering dental benefits. A plan has been developed which would—without affecting the present structure of Blue Shield—enable the Plan to produce such a program. This plan will be presented to the Kansas Medical Society's House of Delegates at its annual spring meeting. Following are the major features of the plan . . .

PURPOSE . . . To provide a service benefit approach to prepayment of dental services under a scope of benefits stressing preventative and correctional procedures.

ORGANIZATION . . . Sold and administered by Blue Shield. Sponsored and endorsed by the Kansas State Dental Association which would secure agreements from its membership to participate within the service benefit criteria established. The working agreement between Blue Shield and KSDA would be for a three year period and necessary business between the two organizations would be handled by the Blue Shield Executive Committee and staff working with a KSDA-appointed Dental Service Committee. The Dental Service Committee would also handle such matters of professional adjudication as might be indicated.

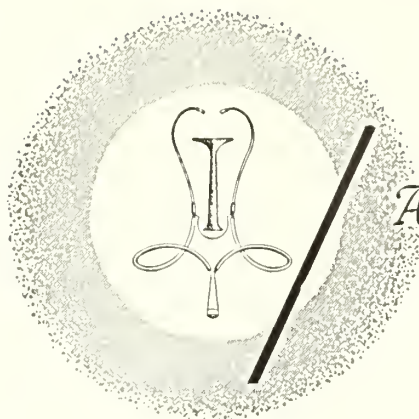
SERVICE BENEFITS . . . For covered services under the Blue Shield Dental Service Rider would be available to families with annual incomes below \$9,000.

COVERED SERVICES . . . Would be on the basis of a standard scope of benefits with a number of coverage options ranging from a full or "first dollar" option to a 60 per cent co-insurance alternative. Major dental services within the scope of benefits are as follow:

- Annual examination and prophylaxis
- Permanent fillings of carious teeth
- Extractions
- Periodontics and Gingivectomies
- Endodontics
- Original Complete Dentures

Services not covered would include Orthodontia, most partial dentures, temporary fillings, replace-

(Continued on page 157)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

APRIL

- Apr. 3-4 Midwest Cancer Conference, Broadview Hotel, Wichita.
- Apr. 3-5 Annual Meeting, American Society of Internal Medicine, Atlantic City. For information write: American Society of Internal Medicine, 3410 Geary Blvd., San Francisco 94118.
- Apr. 6-9 Annual Spring Congress in Ophthalmology, Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Va.
- Apr. 6-10 Annual Session, American College of Physicians, Atlantic City.

May

- May 4-6 Annual Session, Kansas Medical Society, Topeka.
- May 6 Annual Dr. F. G. Thompson, Sr., Lectureship, Thompson, Brumm & Knapper Clinic, St. Joseph, Mo. Dr. James C. White, Boston, will speak on the subject "Somatic and Visceral Pain in the Trunk and Extremities: Evaluation of Neurosurgical Methods for Its Relief."
- May 7-9 Mid-Central States Orthopaedic Society, Continental Denver Hotel, Denver.
- May 9-14 American Proctologic Society and Section of Proctology of the Royal Society of Medicine, Bellevue Stratford Hotel, Philadelphia.
- May 11-14 Annual Scientific Meeting, Aerospace Medical Association, Miami Beach. Write: Wm. J. Kennard, M.D., Aerospace Medical Assn., Washington National Airport, Washington, D. C.

POSTGRADUATE COURSES

American College of Physicians postgraduate courses:

- Apr. 2-4 *Current Concepts in the Physiology of Respiration, Circulation, and Electrolytes*, Atlantic City, N. J.
- May 11-15 *Clinical Auscultation of the Heart*, Washington, D. C.
- May 25-29 *Medical Care of the Adolescent*, Boston, Mass.
- May 25-29 *Recent Progress in Endocrinology*, Seattle.

Registration forms and requests for information on the above courses should be directed to: Edward C. Rosenow, Jr., M.D., Exec. Dir., The American College of Physicians, 4200 Pine Street, Philadelphia 4.

University of Kansas School of Medicine postgraduate courses:

- Apr. 6-8 *Ophthalmology*
- Apr. 8-10 *Otorhinolaryngology*
- Apr. 13-15 *Anesthesiology*

For information on the above courses, contact The Department of Postgraduate Medical Education, University of Kansas School of Medicine, Rainbow Boulevard at 39th Street, Kansas City, Kansas.

University of Colorado postgraduate courses:

- Mar. 25-27 *Management of Trauma*
- Apr. 23-25 *Clinical Dermatology*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

- Apr. 9-11 *The Sick Child in General Practice*, Mound Park Hospital Foundation, Inc., St. Petersburg, Fla.

- Apr. 19 *Management of Anxiety States and the Place of Drugs in This Situation*, Neurological Hospital, Kansas City, Mo.

Apr. 22-25 *Fractures and Other Trauma*, Chicago Committee on Trauma of the American College of Surgeons, John B. Murphy Memorial Auditorium, 50 E. Erie, Chicago.

University of Missouri School of Medicine postgraduate courses:

Apr. 23-24 *Ophthalmology in the Practice of Medicine*

May 20-21 *Clinical Advances in Medicine and Pediatrics*

For additional information and reservations write: Gail Bank, Exec. Director, Postgraduate Medical Education, M-176, Univ. of Missouri Medical Center, Columbia, Mo.

May 5-15 *Introduction to Fundamentals of Reconstructive Surgery of the Nasal Septum and External Pyramid*. American Rhinologic Society. Presented at the Univ. of Cincinnati College of Medicine and Christ Hospital, Cincinnati.

ELECTIVE COURSE IN RELIGION AND MEDICINE

Saturday mornings, 11:00 a.m.
University of Kansas Medical Center
March 7, 1964 through May 16, 1964

Mar. 21 Roman Catholic Viewpoint—Father Freeman.

Mar. 28 Protestant Viewpoint—Dr. Robert Meneilly, D.D., Village Presbyterian Church.

Apr. 4 Protestant Viewpoint—Dr. Meneilly.

Apr. 11 Free

Apr. 18 Jewish Viewpoint—Rabbi W. B. Silverman, M.H.L. The Temple, Congregation B'Nai Jehudah.

Apr. 25 Jewish Viewpoint—Rabbi Silverman.

May 2 Minority Denominations (Unity, Christian Science, Jehovah's Witness, Holiness, etc.)—Dr. Carl Bangs, B.D., Ph.D., St. Paul School of Theology.

May 9 Hospital Chaplains' Viewpoint—Rev. George Munding, Chaplain, K. U. Medical Center, and Father Norbert Lickteig, S.T.B., Chaplain, K. U. Medical Center.

May 16 Psychiatry and Religion—Dr. Paul W. Pruyser, Ph.D., The Menninger Foundation.

Open to all physicians, nurses, paramedical personnel or interested parties without formal enrollment.

Blue Shield

(Continued from page 155)

ment dentures, and precious metal filling and inlay costs.

UNDERWRITING . . . Would be aimed at an initially self sustaining subscription charge. Enrollment would be limited to larger groups within which a substantial majority of those eligible for membership would be required to enroll. Pre-existing conditions of a serious nature would be excluded from individual coverages, and initial waiting periods for certain conditions might be applied to further insure rate stability.

Blue Shield is presently seeking to communicate details about the plan at its Medical Councilor District Relations meetings. Further information will be sent to local societies prior to the annual spring meeting of the Kansas Medical Society.

The proposed Blue Shield Dental Service Rider as described would not alter the present organizational pattern of the Plan. It would necessarily be considered experimental and exploratory. In implementation, its primary advantage would lie in the demonstration that a well established and physician oriented plan for voluntary medical prepayment could successfully coordinate its efforts with a related profession toward expanding the horizontal spectrum of health care coverage available to the public.

The sage has no decided opinions and feelings, but regards the people's opinions and feeling as his own.—*Lao-Tse*

It is well for the heart to be naive and for the mind not to be.—*Anatole France*

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Donald C. Dirks, M.D.
Box 352
Satanta, Kansas

George H. Hassard, M.D.
Snyder Clinic
Winfield, Kansas

David L. Hagar, M.D.
135 E. Claflin
Salina, Kansas

Clifford S. Reusch, M.D.
1031½ E. Ninth
Winfield, Kansas

Norman R. Harris, M.D.
519 S. Santa Fe
Salina, Kansas

Marion E. Spikes, M.D.
312½ N. Main
Garden City, Kansas



Personalities—IN KANSAS MEDICINE

William W. Abrams, Kansas City, received the Dr. Julius H. Rabin Interfaith and Interracial award for 1963 at a meeting held at the Town House hotel in late February. The award is presented annually by the B'Nai B'rith Beth Horon lodge to the individual judged to have contributed most toward promoting amity and better understanding among religious and racial groups in the Kansas City area.

Among the 275 physicians who attended a week-long General Practice Review at the University of Colorado Medical Center in January were: **V. W. Steinkruger**, Phillipsburg; **Julius L. Scates**, Ulysses; **J. W. Jacks**, Pratt; **A. M. Pederson**, Plainville; and **James A. Ward**, Belleville.

Evalyn S. Gendel, Topeka, served as a consultant to a recent health study in Lincoln, Nebraska, at the request of the director of the University of Nebraska School Health Service. Dr. Gendel met with the Lincoln Board of Education and the steering committee of a proposed school health council. She also addressed the Lancaster County (Nebraska) Medical Society.

The Butler County Mental Health Association and the Butler County Medical Society co-sponsored a suicide seminar in Augusta in February. **Dale Anderson**, Augusta, **J. Luis Iberra**, Osawatomie, and **G. E. Kassebaum**, El Dorado, served on a discussion panel.

The Silver Beaver, Boy Scouts' highest award for distinguished service to boyhood, was awarded to two Society members during February. **Anol W. Beahm**, Great Bend, received Scouting's highest honor at the annual Kanza Council recognition dinner held in Hutchinson. The award was bestowed on **Newman V. Treger**, Topeka, at the Jayhawk Council appreciation dinner in Topeka.

Robert F. Moore, Caney, has been appointed local physician and surgeon for the Santa Fe Railway Company.

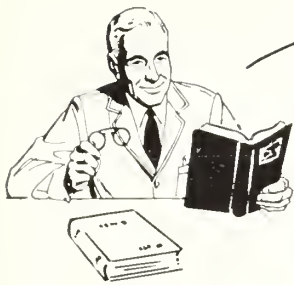
New Officers were elected by the staff of St. Joseph's hospital in Concordia in January. Serving as president during this year is **Paul Nelson**. **John H. Lathrop** was elected vice president and **Yong W. Kim**, staff secretary. Members of the executive committee elected were **Charles G. Foster**, who will serve as chairman, **Henry B. Stryker, Jr.**, and **M. C. Pearson**. All are from Concordia.

David E. Gray, Topeka, was presented a plaque for distinguished individual service to the Washburn University Centennial Development Fund drive. The drive is seeking funds for construction of a fine arts center to commemorate the university's 100th anniversary next year.

Leslie Cheng, Topeka, was the principal speaker at the state meeting of the Kansas State Chapter of the National Multiple Sclerosis Society held in Topeka in February. Dr. Cheng is clinical director of the Kansas Neurological Institute.

A. M. Pederson, Plainville, was elected chief of staff for 1964 at the January meeting of the medical staff of Plainville Rural hospital. **Vale Page**, Plainville, was elected chief of the medical services review committee for medical assistance for the aged.

Glen R. Shepherd has accepted the position as associate secretary of the American Medical Association's Council on Medical Education and has moved from Corona del Mar, California, to Chicago. Dr. Shepherd formerly lived in Kansas City and is a member of the Wyandotte County Medical Society.



Book REVIEWS

MEDICINE IN THE UNITED STATES AND THE SOVIET UNION. By George A. Tabakov, M.D. The Christopher Publishing House, Boston, Massachusetts, 1963. 310 pages. \$4.95.

Dr. Tabakov escaped from Bulgarian Communism in 1958 after bitter and tragic personal experiences. Today he is a dedicated American citizen who emerges as a reporter of fact. He confounds the pretense that Russian medicine has stature ahead of, or even comparable to, that of the western world.

His book is extensively documented and most readable. The literary style is unique—that of one who has learned the language but who is not habituated to the vernacular.

Russian medicine in its various branches is reviewed and compared with that of the west, mostly to the discredit of the Soviet. Doctors are more numerous, but their training is inferior. Their practice must conform to directives. There is small place for individual initiative. "A characteristic of Russian doctors is that they speculate too much. They persistently attempt to adjust everything to their theories of Marxism and Nervism and do not follow the language of the facts. The Party tyrannizes the doctors, who, in return, to survive, deceive the Party, the people and the world. In this the Russian medical profession presents a sharp contrast to the American doctors whose honesty, regard for truth and whose precise analysis of the facts without any prejudice are so typical of American medicine and lie at the root of its almost unbelievable progress."

Research is likewise stultified. In some respects Soviet medicine is a cult, built around the teachings of Ivan Pavlov's "Nervism." And woe betides the scientist whose findings are not compatible therewith.

Soviet medicine is inferior to that of the free world, from which most of their advances have been borrowed. This has been especially true of antibiotics and hormone research. All forms of equipment lag behind ours—laboratory, x-ray, surgical, etc., as do also hospital facilities.

The notable exception, according to Dr. Tabakov, is in the field of psychiatry. He feels that we have blindly followed Freud—somewhat as the Russians follow Pavlov in physiology. And, he writes: "Freudism is not science, because it rests upon delusions and suggestions from the analyst to the analyzed, the former being the interpreter of what the patient is 'revealing.' And so there are as many different interpretations as there are analysts of one and the same 'fact' of confession. Science works with definite, precise facts and elements while Freudism is only a general methodological premise, all the rest being a pathological phantasy."

But, it is with respect to international implications—political, moral, economic, and social, that the book reaches its greatest stature. It exposes the ruthless advance of Communism and its use of the appeasers and "super-Christians" in our midst who are selling us out to the enemy.

In this hour, when it is expeditious for Soviet leaders to moderate the cold war, Dr. Tabakov's warning is most timely: "Man under Communism is nothing. At any time he may be moved, imprisoned, suspected, deported, accused and destroyed. The same has occurred and will occur with whole tribes and populations, like the savage destructions and deportations of the Kulaks, the Caucasus populations, the Jewish people. Today any one of us has the right and the obligation to declare to the Communists that they cannot, as once Lermontov said in his famous poem, with all of their blood, wash out the innocent blood of their victims. Never will historians, writers and poets be able to describe and learn the whole magnitude and horror of which the Communists are the authors, and whom the academicians try to present to the world as its benefactors."

The author's challenge is to American medicine. "Doctors must help our statesmen who are failing because of their super-kindness to the enemy."

Read this book. It will affect your thinking in many areas.—*T.P.B.*



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Archer, R. K. The eosinophil leucocytes. Davis, 1963.
- Banyai, A. L. and Levine, E. R., eds. Dyspnea; diagnosis and treatment. Davis, 1963.
- Beacham, D. W. and Beacham, W. D. Crossen's synopsis of gynecology. 6th ed. Mosby, 1963.
- Becker, Ernest. The birth and death of meaning. Free Press of Glencoe, 1962.
- Birch, C. A., ed. Emergencies in medical practice. 7th ed. Williams & Wilkins, 1963.
- Bloom, S. W. The doctor and his patient. Russell Sage Foundation, 1963.
- Brim, O. G., Jr. and others. Personality and decision processes. Stanford University, 1962.
- Campbell, E. J. M. and others, eds. Clinical physiology. Blackwell, 1963.
- Ciba Foundation Study Group No. 15, London, 1963. Pathogenesis of leprosy. Edited by G. E. W. Wolstenholme and Maeve O'Connor. Little, Brown, 1963.
- Cohen, Jack. Living embryos. Macmillan, 1963.
- Conference on the Kidney. Proceedings . . . 14th, National Kidney Disease Foundation, 1963.
- Eisenson, Jon and others. The psychology of communication. Appleton-Century-Crofts, 1963.
- Elliott, H. C. Textbook of neuroanatomy. Lippincott, 1963.
- Ernst, Jenő. Biophysics of the striated muscle. Akadémiai Kiadó, 1963.
- Evang, Karl. Medical care and family security. Prentice-Hall, 1963.
- Fiore, M. S. H. di. An atlas of human histology. 2d ed. Lea & Febiger, 1963.
- Flatt, A. E. The care of the rheumatoid hand. Mosby, 1963.
- Freud, Sigmund. The standard edition of the complete psychological works of Sigmund Freud. Translated by James Strachey and others. v.15 and v.16, Hogarth, 1963.
- Friedman, H. H. Outline of electrocardiography. McGraw-Hill, 1963.
- Glick, David. Quantitative chemical techniques of histo- and cytochemistry. v.2, Interscience, 1963.
- Gordon, I. J. Human development, from birth through adolescence. Harper, 1962.
- Gray, C. H. Clinical chemical pathology. 3d ed. Williams & Wilkins, 1963.
- Harley, R. K. Verbalism among blind children. American Foundation for the Blind, 1963.
- Havener, W. H. Synopsis of ophthalmology. 2d ed. Mosby, 1963.
- Kupperman, H. S. Human endocrinology. Davis, 1963.
- Levine, Laurence, ed. The cell in mitosis; proceedings. Academic, 1963.
- Luce, R. D. and others, eds. Handbook of mathematical psychology. v.1, Wiley, 1963.
- Meyers, M. A. Diseases of the adrenal glands. Thomas, 1963.
- Michelson, A. M. The chemistry of nucleosides and nucleotides. Academic, 1963.
- National Society for the Study of Education. Committee on Child Psychology. Child Psychology. Edited by Harold W. Stevenson and others. University of Chicago Press, 1963.
- Progress in gynecology. v.4, Grune & Stratton, 1963.
- Progress in nucleic acid research. v.1, Academic, 1963.
- Riggs, D. S. The mathematical approach to physiological problems. Williams & Wilkins, 1963.
- Scher, J. M., ed. Theories of the mind. Free Press of Glencoe, 1962.
- Stephens, W. N. The Oedipus complex. Free Press of Glencoe, 1962.
- Thoma, K. H. Oral surgery. 4th ed. Mosby, 1963.
- Williams, Denis, ed. Modern trends in neurology. 3rd series. Butterworths, 1962.
- Wolstenholme, G. E. W., ed. Man and his future; a Ciba Foundation volume. Little, Brown, 1963.



ALBERT C. HATCHER, M.D.

Dr. Albert C. Hatcher, Wellington, died on January 29, 1964, at the Hatcher Hospital Clinic in Wellington. He was 46 years old.

Dr. Hatcher was born on July 21, 1917, in Wellington. He attended Dartmouth College, and later entered Northwestern University Medical School, Chicago, from which he obtained the degree of doctor of medicine in 1942. He was a veteran of World War II, serving in the medical corps of the U. S. Army in Italy and Africa. In 1946 Dr. Hatcher went to Rochester, Minnesota, as a fellow in obstetrics and gynecology in the Mayo Foundation and returned to Wellington in 1949 to become a member of the Hatcher Hospital Clinic, of which his father was the founder.

His survivors are his wife and three children.

JAMES A. KNOOP, M.D.

Dr. James A. Knoop, 80, and his wife were killed in an automobile accident near Olathe on February 8, 1964. Dr. Knoop had practiced in Olathe for over 30 years.

Dr. Knoop was born in Troy, Ohio, on March 12, 1883. He graduated from the University Medical College of Kansas City in 1909 and began his general practice in Bucyrus in 1910, later moving to McCune and then to Parsons. In 1933 he moved from Parsons to Olathe and continued his practice there until his death. He served as county coroner of Johnson County during the 1950s and was physician for the county jail at the time of his death.

Dr. and Mrs. Knoop are survived by a son.

DALE C. McCARTY, M.D.

Dr. Dale C. McCarty, 57, Medicine Lodge, died on January 22, 1964, at the Medicine Lodge Memorial Hospital.

Born on September 23, 1906, at Portis, Kansas, he received his medical degree from the University of Kansas School of Medicine in 1931. He began his medical practice at the Nashville hospital in 1932. In 1939, he entered the Army Medical Corps and served for five years. He moved to Medicine Lodge in 1946 where he practiced until his recent illness.

Survivors include his widow and one son.

MILTON B. MILLER, M.D.

Dr. Milton B. Miller, 76, a Topeka physician since 1913, died on January 29, 1964, in a Topeka Hospital.

He was born on November 2, 1887, at Osage City. After receiving a degree from the University of Kansas in 1908, he enrolled in the University of Cincinnati and was awarded his doctor of medicine degree from that school in 1912. After serving his internship in a Cincinnati hospital he came to Topeka in 1913 to begin his practice. In 1920 he became associated with the Victory Life Insurance Company as medical director, a post he still held at the time of his death. He was also chairman of the board of the company. He was a veteran of World War I, having served in the Army Medical Corps in France.

Dr. Miller is survived by a daughter and two sons.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence

Summary of Cases Reported in November 1963 and 1962

And cumulative totals for the first eleven months of 1963 and 1962

Diseases	November			January to November Inclusive		
	1963	1962	5-Year Median 1958-1963	1963	1962	5-Year Median 1958-1963
Amebiasis	6	40	5	89	84	84
Aseptic meningitis	—	1	*	—	34	*
Brucellosis	1	8	3	7	22	46
Cancer	288	278	464	4,286	3,882	4,286
Diphtheria	—	1	—	—	1	—
Encephalitis, infectious	7	1	2	19	23	27
Gonorrhea	216	138	217	2,706	2,089	2,561
Hepatitis, infectious	23	16	16	242	410	265
Meningitis, meningococcal	2	1	1	13	14	13
Pertussis	6	2	6	73	39	51
Poliomyelitis	—	—	—	—	—	8
Rheumatic fever	—	—	—	—	10	3
Salmonellosis	32	24	7	270	324	80
Scarlet fever	8	20	24	296	455	455
Shigellosis	13	14	7	73	66	73
Streptococcal infections	158	109	109	1,395	1,174	1,174
Syphilis	52	82	75	975	1,072	1,128
Tinea Capitis	2	5	8	62	125	125
Tuberculosis	12	18	18	254	242	254
Tularemia	3	4	3	19	13	19
Typhoid fever	—	—	—	2	—	3

* Statistics on 5-Year Median not available.

DIPHTHERIA—OKLAHOMA

An epidemic of diphtheria, with 13 clinical cases, including 2 deaths, occurred in Adair County, Oklahoma, between late October and early December. An additional 12 carriers were discovered in the course of investigation.

The epidemic was discovered when 2 brothers (Cases 5 and 6) were hospitalized in Arkansas with membranous pharyngitis in early December. Diphtheria was suspected clinically, and confirmed by culture. Then, it was learned that an older sister (Case 3) had experienced a sore throat in early November. She was treated with penicillin; the pharyngitis appeared improved. Three days later, however, she developed cardiac failure. She died 13 days after the onset of her illness. An autopsy was not performed. Diphtheria was not suspected.

A physician remembered a 13-year-old girl (Case No. 1) whom he had treated with penicillin for a severe sore throat in late October. Cultures, taken prior to antibiotic therapy, were interpreted as growing normal flora; cultures were not taken specifically for diphtheria. Despite antibiotic therapy for 6 days, she developed nasal regurgitation and a cardiac ar-

rhythmia. She died 11 days after the onset of symptoms. These 2 fatal cases had attended the same school, where a D-P-T immunization drive had been held during the fall. A 90 per cent response of school age children resulted; the 2 girls were among the 10 per cent not receiving vaccine.

After the first case in Family B was recognized, a nurse went to the home to immunize the remaining family members.

Intensive investigations by health department authorities have subsequently revealed 9 additional cases, all but two of whom thus far can be traced to direct or indirect contact with recognized cases. Notably, 6 of the 13 cases occurred in a family of 13 children. Of the 13 cases, 11 had not received primary immunization; 2 were inadequately immunized (no booster dose within the past 4 years).

Oklahoma Public Health officials cultured all students at the 2 schools and all known contacts. Of 12 carriers detected, most were siblings or close contacts of the known cases.

A county-wide immunization program was held when the epidemic was recognized. Approximately 7,000 of the county's 13,000 residents responded.

Maternal Mortality

This is the case of a 31-year-old, gravida 10, para 10, with four known stillbirths. The diagnosis on the death certificate is, "Massive bilateral pulmonary atelectasis, postoperative shock following cesarean section for ruptured uterus, retroperitoneal abdominal hemorrhage." An autopsy was performed.

This patient was seen for the first time in the fifth lunar month of pregnancy weighing 207½ pounds. Blood pressure at that time was 130/60. She had six subsequent visits. Weight at the last examination was 232 pounds, blood pressure 138/80. She was known to have had mild hypertension at times since her second pregnancy, with no treatment for this.

The patient was admitted to the hospital in mild labor which progressed to heavy labor in the early evening. After she had been in the hospital three hours, an examination revealed no dilatation. An x-ray was ordered which showed an adequate pelvis and breech presentation. At approximately five and one-half hours after she went into heavy labor, a sterile vaginal examination was performed which showed complete dilatation of the cervix. The breech presentation was confirmed. The patient was highly uncooperative and made continued attempts to force delivery of the baby by pushing on her abdomen with her hands. Reports from her previous obstetrician confirmed that she had been quite uncooperative in a previous delivery, behaving much in the same manner and refusing to take suggestions from the physician. A consulting physician saw the patient and decided that she was in shock and deteriorating; he recommended a cesarean section feeling that she may possibly have ruptured her uterus due to her continuous pushing and straining. A classical cesarean section was done which showed friability and ecchymosis of the uterine segment, mainly in the left broad ligament area. However, no actual site of rupture could be located.

A stillborn baby was removed weighing 10 pounds 4¾ ounces. The incision was closed and the patient's condition improved. She received two units of blood during surgery.

On the first postoperative day the blood pressure was essentially stabilized. She was taking fluids and urinary output was reasonably good. Hb. 77 per cent.

On the second postoperative day the blood pressure was elevated to 150/100, general condition was good and urinary output satisfactory.

On the third postoperative day the blood pressure continued to rise. The patient began having more difficulty in breathing. She became somewhat cyanotic early in the day. That evening she became much more cyanotic and expired within approximately ten minutes.

Autopsy findings revealed an obese female with uterine rupture into the left broad ligament; surgical laceration of the bladder; dependent pulmonary atelectasis bilateral; and mild bilateral hydrothorax. Microscopic examination revealed severe central necrosis of the liver.

Committee Opinion:

It was the feeling of the committee that the patient apparently died a cardiac death and that her rapidly rising blood pressure may well have represented a fulminating postpartum toxemia. The laceration of the bladder was apparently sealed off and did not contribute to the patient's death. It was felt that the patient's uncooperative actions during labor, to a large part, contributed to the ultimate course of events.

Classification:

Maternal death, obstetric and preventable.

The Kansas Medical Society—1963-1964

OFFICERS

President.....	H. St. Clair O'Donnell, Ellsworth
President-Elect.....	John C. Mitchell, Salina
Immediate Past President.....	Norton L. Francis, Wichita
First Vice-President.....	George E. Burket, Jr., Kingman
Second Vice-President.....	James A. McClure, Topeka
Secretary.....	Leland Speer, Kansas City
Treasurer.....	John L. Lattimore, Topeka
A.M.A. Delegate.....	Clyde W. Miller, Wichita
A.M.A. Delegate.....	Lucien R. Pyle, Topeka
A.M.A. Alternate.....	William J. Reals, Wichita
A.M.A. Alternate.....	Glenn R. Peters, Kansas City
Chairman of Editorial Board...	Orville R. Clark, Topeka

COUNCILORS

District 1.....	Virgil E. Brown, Sabetha
District 2.....	J. W. Manley, Kansas City
District 3.....	Dan L. Berger, Shawnee Mission
District 4.....	Dick B. McKee, Pittsburg
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Heart Attack?

Ruptured Large Aneurysm of the Left Coronary Artery: Report of a Case

JUN SOGA, M.D., and JOHN KEPES, M.D., Kansas City, Kansas*

ANEURYSMS MAY DEVELOP at any segment of the arterial tree but are most common in the aorta and its major tributaries and in the cerebral arteries. The coronary arteries rarely are involved in the formation of aneurysms; the term "coronary disease" almost invariably implies an occlusive process.

The following case is that of a 24-year-old woman who died of a large ruptured aneurysm of the left coronary artery. The aneurysm was presumably a complication of rheumatic heart disease and subacute bacterial endocarditis.

Case Report

[S.L.R. (Hosp. No. 62-9445)] A 24-year-old, married, white female was admitted to the University of Kansas Medical Center on July 4, 1962, complaining of aching pains of the left chest and shoulder of four days' duration.

In October, 1961, the patient had extensive dental extractions and subsequently noted easy fatigability. One month later, she developed aching pain in the knees, elbows, ankles and hips. A fever of undischarged degree was present at that time. She was treated with sulfonamides for possible urinary tract infection and with digitalis for increasing dyspnea. She had lost approximately 28 pounds over a two

months' period. In January, 1962, she was hospitalized and treated with antibiotics for bacteremia. After discharge, she remained essentially asymptomatic until April 30, 1962, when she noted dyspnea on ex-

A case of a large aneurysm of the left coronary artery in a 24-year-old woman is reported. The aneurysm apparently developed on the basis of subacute bacterial endocarditis and can be classified as having a mycotic-embolic origin.

Death was due to rupture of the aneurysm probably facilitated by an acute rheumatic pericarditis involving the outer layers of the aneurysmal sac.

A short review of the literature is presented.

ertion and left shoulder pain accompanied by a feeling of tightness throughout the entire chest. The chest pain was mainly substernal and occasionally pleuritic in nature. Two weeks prior to admission she developed a sore throat which subsequently became severe. Shortness of breath had increased during the ten days prior to admission and prevented her from lying down.

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The patient had been told previously that she had had rheumatic fever although, with the exception of "growing pains" in her legs during childhood, she denied any symptoms of this.

Physical examination disclosed a well-developed, well-nourished, somewhat thin, tall, white female who appeared acutely and chronically ill with blood pressure of 95/75 mm. Hg., a regular pulse rate of 116/min., respiration rate of 36/min. and temperature of 101°F. The head, ears, nose and throat were essentially normal. The chest was clear with equal expansion bilaterally. Examination of the heart revealed the point of maximum cardiac impulse in the sixth intercostal space at the left anterior axillary line. There was a diffuse thrust over the left side of the heart and a palpable systolic thrill over the apex and the aortic area. The heart tones were of good quality with a diastolic gallop rhythm. There was a Grade IV harsh systolic murmur at the apex associated with a Grade II diastolic rumble. A Grade IV harsh systolic murmur was noted at the aortic area with transmission to the neck. Abdominal examination revealed a somewhat tender liver palpable two finger-breadths below the right costal margin. The spleen was not palpable. Examination of the extremities suggested moderate clubbing of the fingers and toes.

Laboratory studies were as follows: urinalysis on admission showed a trace of albumin, a specific gravity of 1.018, some pus and red blood cells in the sediment. White blood cell count was 14,800 with 76 polys, 19 lymphocytes and 5 monocytes. Hemoglobin was 11.3 grams and hematocrit 39.5 per cent. Serological tests were nonreactive. Tuberculin and histoplasmin skin tests were negative at 48 hours. LE cell preparation was negative. Nine blood cultures were negative at ten days. Throat culture revealed normal flora and a urine culture was negative. Sedimentation rate was 26 mm./hr.

Electrocardiograms raised the possibility of myocardial injury to the anterior wall of the heart.

X-ray of the chest on admission revealed striking cardiomegaly. A deformity of the cardiac silhouette was suggestive, in part, of pericardial effusion. Barium swallow revealed a definite displacement of the esophagus posteriorly due to enlargement of the left auricle.

Rheumatogram indicated severe exudative or degenerative changes in an acutely active phase.

The patient's fever in the hospital persisted and intermittently reached temperatures of 102°F. She was given digitoxin to a total dose of 1.35 mg. over a period of four days. On the second hospital day, a pericardial friction rub was noted. Aqueous penicillin was administered and the patient seemed to be improving until July 8, 1962, when, returning to bed, she suddenly gasped, staggered and fell.

Autopsy Findings

The body was that of a well-developed, normally-nourished, young, white female. The fingers and toes showed moderated clubbing. The main findings were in the heart, which weighed 600 grams. The pericardial cavity was filled with an estimated 300 cc. of soft, dark red blood clot. The heart was covered with a thick layer of dense fibrinous material with numerous foci of hemorrhage and occasional areas of organization. Over the posterosuperior region of the left ventricle there was a bulging area measuring approximately 3 cm. in diameter from which blood could be expressed through a small perforation (*Figure 1*). On opening this lesion, it was found to be an aneurysmal dilatation of the circumflex branch of the left coronary artery. It measured $3 \times 2 \times 2$ cm. and was situated at a point 4 cm. distal to the origin of the circumflex branch (*Figures 2 and 3*). The aneurysm was lined by whitish, pale, irregular, glistening tissue with attached patches of brown, partially organized blood clots. The thickness of the wall ranged from 0.1 cm. to 0.6 cm. The small perfora-



Figure 1. The heart is covered by a thick, shaggy, fibrinous exudate mixed with fresh blood. A thin walled sac is bulging from the posterosuperior area of the left ventricle. On slight pressure, blood oozed from a small rupture site in the aneurysmal wall.

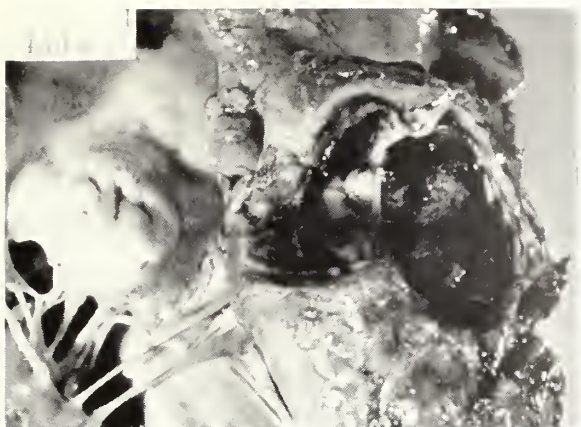


Figure 2. The cavity of the aneurysm occupies the entire thickness of the left ventricular wall near the base. A puckering old mycotic aneurysm is also seen on the anterior leaflet of the mitral valve.



Figure 3. The probes indicate the connections of the circumflex branch of the left coronary artery with the aneurysm.

tion site on the inferior portion of the aneurysm where the wall was extremely thin was filled with recent blood clot. There was no evidence of occlusion of the lumen of the coronary arteries distal or proximal to the aneurysm. The ventricles and atria revealed moderate dilatation and hypertrophy. Tiny mural thrombi were observed in a small area of the posterior aspect of the left atrium. The tricuspid and pulmonary valve cusps showed no significant gross abnormalities; however, the mitral valve cusps were diffusely thickened and irregular with occasional pale-brown, soft, small, vegetations. An aneurysm measuring 1.0 cm. in diameter was noted in the center of the anterior cusp of this valve (Figure 2). The aortic valve cusps also were thickened diffusely and irregularly and showed mild rolling of the free margins with tiny, firm, pale vegetations situated in a line along the proximal portions. There were occasional foci of ulceration and a few pale-brown friable vegetations near the free margins of the cusps of this valve. The posterior commissure of the aortic valve was flattened and this resulted in fusion of the neighboring two cusps. The chordae tendineae of the left ventricle showed a few soft, tiny, pale-brown vegetations.

A moderate degree of acute and chronic passive congestion was noted in the lungs, liver, spleen and kidneys.

Microscopic Findings: The wall of the aneurysm of the left coronary artery was composed of dense, fibrous, connective tissue of irregular thickness and exhibited chronic inflammatory reaction as well as large organizing mural thrombi. Granulation tissue and occasional hemosiderin-laden histiocytes were also observed in the wall of the aneurysm. Endothelial lining cells were not identified. No organisms were

demonstrated. Verhoeff-Van Gieson's stain showed interruption of both internal and external elastic membranes of the coronary artery at the entrance of the aneurysm (Figure 4). The left coronary artery, apart from the aneurysm, did not show significant pathological changes.

The aortic valve showed thickening with various changes consisting of hyalinization, focal calcification, capillary proliferation, subendothelial fibrosis, focal necrosis with a few multinucleated giant cells, and areas of chronic and acute inflammatory cell infiltrate.

The epicardium was extensively replaced by a thick layer of organizing fibrin infiltrated by numerous acute and chronic inflammatory cells. There was marked fibroblastic and capillary proliferation.

The myocardial fibers, in general, were moderately hypertrophic. Scattered among them were areas of fibrosis. Several active Aschoff's nodules were seen in the myocardium.

The kidneys showed old infarcts and many areas of focal glomerulitis consistent with bacterial endocarditis.

Main Anatomical Diagnoses: Chronic and recurrent rheumatic heart disease with pericarditis, myocarditis and scarring of the mitral and aortic valves. Healed and healing subacute bacterial endocarditis of the mitral and aortic valves. Mycotic aneurysm of the mitral valve. Large mycotic aneurysm of the circumflex branch of the left coronary artery with recent rupture: Hemopericardium (300 cc.). Cardiac dilatation and hypertrophy involving all ventricles and atria (600 grams). Mural thrombi of the left atrium, slight. Acute and chronic passive congestion of lungs, liver, spleen and kidneys, moderate. Focal glomerulitis and old infarcts of the kidneys.



Figure 4. Low power view of the junction between the coronary artery and the aneurysm shows the destruction of the elastic laminae in the aneurysmal wall and replacement by dense hyalinized fibrous tissue on the right side (Verhoeff-Van Gieson stain).

Discussion

This unusual case, in 24-year-old white female, illustrated the features of at least two conditions and a rare complication that was fatal.

1. Old rheumatic heart disease was diagnosed on the basis of vascularization, scarring and focal calcification of the aortic and mitral valves. An active rheumatic process was also present as indicated by the presence of Aschoff's nodules in the myocardium and by a sterile fibrinous pericarditis which probably represented a reactivation of the process following an episode of "sore throat" two weeks prior to admission.

2. Signs of healed and healing subacute bacterial endocarditis were observed in the mitral and aortic valves with focal glomerulitis and old infarcts in the kidneys. The history definitely indicated a period of bacteremia approximately six months prior to death. The most important complication of the bacterial endocarditis was the formation of mycotic aneurysms of the mitral valve and of the circumflex branch of the left coronary artery. The aneurysm of the latter ruptured and was the cause of fatal pericardial hemorrhage. Scarring in the wall of the aneurysm indicated that it was of considerable duration and was most likely related to the episodes of bacterial endocarditis six months prior to death. It is possible, however, that the recurrent rheumatic pericarditis was responsible for the weakening of the aneurysmal wall and its rupture.

Over 90 cases of localized aneurysms of the coronary arteries have been reported since the first case

described by Bougon in 1812. The literature of this rare condition has been reviewed on several occasions among others by Packard and Wechsler (1929), Scott (1948), Crocker et al. (1957) and by Daoud and coworkers (1963). Thirty cases collected from the literature by Packard and Wechsler, including one of their own, were divided into two groups, one due to mycotic-embolic processes and the other to arteriosclerosis. The former group had an average age of 27 and the latter 57 years. The mycotic-embolic aneurysms occurred in association with acute and subacute endocarditis of the aortic valve. In the vast majority of their cases, the aneurysm was single and usually involved the left coronary artery within the first inch of its course. About half of these cases developed a rupture of the aneurysm resulting in sudden death. Scott, in 1948, collected 46 cases and added one case of his own. These cases were divided into congenital, mycotic-embolic, syphilitic, arteriosclerotic, rheumatic, miscellaneous and unclassified cases. Scott found that thrombotic occlusion of the coronary arteries, which occurred nine times in his series, was a much more frequent complication and cause of death in the cases with aneurysm of the coronary arteries than rupture, although prior to 1929 the latter had been reported as the commonest cause of death. Twenty-seven of these aneurysms were found on the left coronary artery while eleven were on the right and six on both. The location of three was not specified.

Crocker and coworkers reviewed 23 cases, including three of their own, in 1957. They, too, emphasized that the most frequent causes of death were occlusion of the coronary artery and myocardial infarction rather than rupture of the aneurysm which occurred in only one of their cases.

The most recent review of the literature by Daoud et al. dealt with a total of 89 cases of coronary artery aneurysm since 1812, including 10 of their own [cases reported in infants by Grob and Kolb and by Forbes and Bradley were not included in their review]. These authors suggested that aneurysms of the coronary arteries are probably not as rare as the low number of previous case reports might have indicated, in view of the 1.4 per cent incidence in the autopsies of patients over the age of 16 years at the Albany Medical Center Hospital.

Our case can be classified as a mycotic-embolic aneurysm most likely due to subacute bacterial endocarditis. It seems that the severe acute pericarditis of rheumatic origin was at least partly responsible for further weakening of the wall and the final rupture. The role of rheumatic fever in the development of coronary aneurysm was emphasized by Rae.

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Ruptured Esophagus

Spontaneous Rupture of the Esophagus

ALFRED HEILBRUNN, M.D., *Kansas City, Missouri**

SPONTANEOUS RUPTURE of the esophagus is a catastrophic process and usually fatal unless promptly treated. Survival depends on early recognition and effective surgical therapy. The disease is an uncommon clinical entity and the diagnosis is often not established until autopsy examination is performed.

The following case report is presented to illustrate some of the problems in diagnosis and again emphasize that unless the lesion is suspected, the correct treatment will not be instituted.

Case Report

A 76-year-old white male was admitted to the Kansas City Veterans Administration Hospital with a chief complaint of severe abdominal and back pain of 12 hours' duration accompanied by vomiting. The patient was in such distress that most of the history was obtained from his wife. He had been in his usual state of health until late the previous afternoon when he noted the onset of severe cramping abdominal pain radiating to the back. There had been emesis of gastric contents. The pain was unremitting and approximately ten hours after the onset the patient again had an episode of emesis, this time consisting of a large quantity of coffee-ground material and blood clots. The abdominal pain continued and radiated into the shoulders and back. The patient had lost approximately 50 pounds during the previous year and had limited his dietary intake to liquid and soft foods, although no specific symptoms were elicited. He had noted intermittent "indigestion" since 1956.

Physical examination showed an acutely ill, white male in severe distress from abdominal pain. The skin was cool and clammy, the peripheral veins were collapsed, blood pressure was 70/40, the pulse was thready and weak with a rate of 110. Examination of the chest, lungs and heart were normal except for grunting respiration and a GR III systolic murmur. The abdomen appeared slightly distended. There was diffuse tenderness with board-like rigidity in the epigastrium and bowel sounds were hypoactive. Rectal examination showed tarry stool in the ampulla. The

remainder of the physical examination was normal for an individual of this age.

Hospital Course: Immediately upon his arrival on the ward, intravenous fluids were started and blood samples drawn for typing, cross-matching and laboratory determinations. A working diagnosis of peptic ulcer with perforation and bleeding was es-

Rupture of the esophagus is an acute surgical emergency. Recovery depends on early diagnosis and prompt repair. This lesion must be considered in the differential diagnosis of sudden severe upper abdominal or substernal pain.

established and attempts made to improve the patient's condition prior to operation. He was initially given 1000 ml. of 5 per cent glucose in normal saline and 500 ml. of a commercially available plasma volume expander (Plasmanate®).^{*} As soon as typed and cross-matched blood was available 1000 ml. were transfused. A nasogastric tube yielded coffee-ground material. Resuscitative measures resulted in slight improvement in the patient's clinical appearance, an elevation of the blood pressure to 90/60 and a diminution of the pulse to 100. X-rays of the chest and abdomen were obtained (*Figures 1 and 2*). The initial CBC showed a hematocrit of 32, hemoglobin 10.8 and a white count of 7,400 with 90 per cent neutrophils, 32 per cent band forms, 10 per cent lymphocytes and 1 per cent monocyte. The electrolytes were within normal limits, BUN was 70 mg. per cent and serum amylase was 150 Somogyi units. Initially the x-ray films were not thought to be diagnostic, and both chest and abdominal films failed to show the presence of free intra-abdominal air.

Laparotomy was performed approximately five hours after admission. No evidence of perforated peptic ulcer was found. The patient did have blood within the lumen of the stomach, small and large intestine. A small posterior ulcer was present in the first part of the duodenum. There was acute cholecystitis with gangrene of the gallbladder. A cholecystec-

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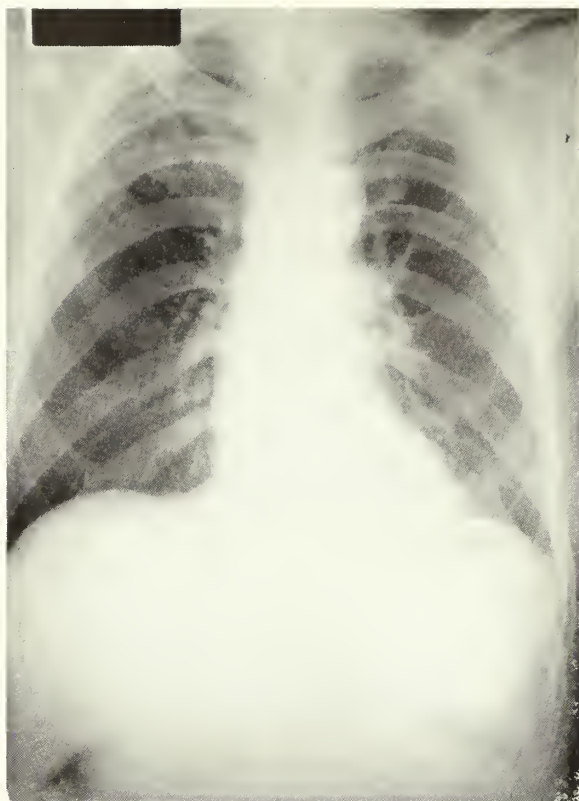


Figure 1. Admission PA chest x-ray.

tomy was performed. The patient received an additional 500 ml. of blood during the operative procedure and at the conclusion of the procedure his blood pressure was 100/70 and his pulse was 120.

During the first six postoperative hours the patient's status was relatively stable. Then, his temperature rose to 101 degrees and his blood pressure fell to 70/50 and venous pressure was 7 cm. of water. Additional blood was given and the patient was digitalized. These measures again resulted in an increase in blood pressure and a satisfactory slowing of the pulse rate. Early the following morning the patient appeared to be having increasing respiratory difficulty with rales in both lung bases. Chest x-ray showed a diffuse opacity of the left hemithorax (*Figure 3*). This film was misinterpreted as showing pneumonia and atelectasis of the left lung.

Bronchoscopy was performed and coffee-ground material was aspirated from the left main stem bronchus. Only transient improvement was noted and the patient again became hypotensive. Gram negative bacterial septicemia as a cause of shock was strongly suspected. Blood cultures were drawn and the patient was given intravenous hydrocortisone and massive (40 million units) intravenous penicillin therapy supplemented by intravenous chloramphenicol. Repeat hemoglobin was 14.6 gms. with a hema-

toctrit of 44. By the evening of the first postoperative day the patient was no longer responsive, his deterioration continued and vasopressors were used to maintain his blood pressure. He expired the following morning, 48 hours after admission.

At autopsy there was a rupture of the lower esophagus resulting in acute necrotizing mediastinitis and pleuritis with atelectasis of the left lung. There was an ulcer in the pyloric canal and an acute gastric ulcer with evidence of recent bleeding in the fundus of the stomach. There had been aspiration of regurgitated gastric contents. Examination of the gallbladder removed at the time of the operation confirmed the presence of acute gangrenous cholecystitis and cholelithiasis. Blood samples obtained prior to the patient's demise subsequently cultured a *pseudomonas* species.

Comment

This patient died as a result of his unrecognized spontaneous rupture of the distal esophagus. The postmortem findings seemed to explain the patient's course. It would appear that his initial problem had been that of acute cholecystitis which produced severe vomiting, resulting in the rupture of the



Figure 2. Upright film of abdomen. Note irregular patch of air superimposed on cardiac shadow.

esophagus. The leakage of esophageal and gastric contents into the lower mediastinum produced the severe pain and abdominal rigidity which were out of proportion with the finding of acute cholecystitis at operation. Indeed, a very careful search had been made in order to identify perforation of a duodenal ulcer or other viscus. Had perforation of the esophagus been considered, further exploration of the esophageal hiatus may have demonstrated the rent. The commonly noted findings of advanced perforation of the esophagus, namely mediastinal crunch or subcutaneous emphysema in the neck, were not present. Even retrospective review of the preoperative chest x-ray (*Figure 1*) failed to show any findings which would have directed our attention to the perforation of the esophagus. Review of the upright abdominal film (*Figure 2*), however, did show the presence of an abnormal gas shadow in the area of the heart. This probably represented mediastinal air and should have alerted us to the possibility of esophageal rupture. Postoperatively the patient's failure to improve was puzzling. This can be accounted for by his progressive mediastinitis, pleuritis and gram negative bacterial septicemia. The postoperative chest x-ray (*Figure 3*) demonstrates the pleural effusion resulting from the mediastinitis but again failed to show obvious signs of free mediastinal air.

Discussion

Spontaneous rupture of the esophagus may be defined as a tear occurring in a previously healthy organ with no discernible underlying disease or defect.⁵ The rupture appears as a longitudinal rent and is almost invariably located on the left posterolateral aspect of the esophagus just above the esophago-gastric junction. As a result of leakage of gastric contents, extensive mediastinitis is produced. Frequently, there is an associated pleural tear with hydropneumothorax and subsequent empyema.

A number of excellent reviews of the clinical and pathologic aspects of this disease are available.^{1, 3, 7, 8} Characteristically, the patient is a male between 35 and 60. There is usually an episode of vomiting and the sudden onset of excruciating upper abdominal or lower chest pain radiating into the back and shoulders. A large meal or an alcoholic debauché are common predisposing factors although a large variety of causes have been described.⁴ The rupture is followed by cardiovascular collapse. Upper abdominal rigidity is commonly present. Classically, mediastinal crunch, subcutaneous emphysema of the neck, and a variety of chest findings—pneumothorax, hydrothorax, hydropneumothorax—are present at sometime in the patient's course.

The diagnosis can be confirmed by the x-ray find-



Figure 3. Postoperative chest x-ray.

ings of mediastinal and cervical emphysema accompanied by changes in the left pleural space. The tear may be demonstrated by a swallow of radiopaque material and observation of its passage into the mediastinum and pleural space.¹ Ruptured esophagus is most frequently confused with perforated peptic ulcer, acute pancreatitis and myocardial infarction.⁷ Each of these may present with similar severe pain and shock. X-rays, electrocardiograms, and serum amylase determinations may be helpful in their differentiation. The diagnostic triad of rapid respiration, abdominal rigidity and subcutaneous emphysema occurs only in esophageal rupture.¹

Treatment consists of rapid blood volume restoration, decompression of the stomach and early thoracotomy for drainage of the mediastinum and closure of the rent. If there is fluid in the pleural space thoracentesis or tube thoracostomy may provide significant improvement prior to thoracotomy. Successful repair of a spontaneous rupture of the esophagus was first accomplished by Barrett in 1946.² Anderson¹ in 1952 presented four successfully treated cases and emphasized the need for immediate operation. By 1961, a survival of 69 per cent in a collected series of 71 operated patients, was reported.⁶

(Continued on page 177)



Arrhenoblastoma With Cortical Stromal Hyperplasia

Edited by JAMES M. FLYNN, M.D., *Kansas City, Kansas**

Dr. Henry W. Buck (resident in Obstetrics and Gynecology): This is the first University of Kansas Medical Center admission for this 16-year-old girl. The history begins two years prior to admission when she came to the otolaryngology outpatient clinic with the complaint of hoarseness. The larynx was examined and no abnormality was seen. She was referred to the speech clinic where she received speech therapy for a few months without notable change in her voice. She voluntarily discontinued therapy. She was not seen again at the University of Kansas Medical Center until the present admission (November, 1963). During the interim she had a continuing voice problem in that it had become deeper in pitch and had a husky, hoarse quality. She was referred on the second occasion with the complaint of a gradually enlarging abdomen of two to three months' duration. She had had a normal menarche at age 13 with fairly regular periods until May, 1963. At that time she had the onset of amenorrhea which persisted until the present admission. Also, at about that time there was a notable increase in hair on the upper lip and she noted increasing acne. She denied changes in her breasts. The abdominal enlargement was first noted by school officials who assumed it was due to pregnancy. Three pregnancy tests were subsequently negative and on pelvic examination no uterine enlargement was detected. The abdomen continued to enlarge, however, and she was referred to KUMC for further examination and treatment. The only significant past history was pulmonary tuberculosis at age five which was considered arrested at age six.

Dr. Stanley R. Friesen: Are there questions concerning the medical history?

Question: Had she complained of pain or any discomfort referable to the abdominal enlargement?

Dr. Buck: She had noted only the increase in size and related no symptoms to this process.

Question: Was there any change in the bowel habits or complaints referable to the urinary bladder?

Dr. Buck: There were no symptoms referable to either the bowel or urinary bladder.

Dr. Frank Mantz: Were there any deviations from a normal menstrual history prior to the period of amenorrhea?

Dr. Buck: No sir, the menstrual periods had been regular with no change in flow until May, 1963, at which time they ceased and there was no further vaginal bleeding.

Dr. Friesen: What were the physical findings?

Dr. Buck: The vital signs were within normal limits. The patient was well developed, well nourished, shy and had a female habitus. No unusual muscular development was noted. There was a moderate amount of hair on the upper lip and acne was present over the cheeks and chin. The breasts were small but otherwise not remarkable. Her voice had the husky quality of an adolescent boy rather than a 16-year-old girl. The major abnormal physical findings were noted on the abdominal and pelvic examinations. The lower abdomen was symmetrically enlarged giving the appearance of a six month pregnancy. The enlargement was due to a tumor mass which completely filled the lower abdomen and felt moderately firm and cystic similar to a pregnant uterus. There was no tenderness or fluid wave. The upper abdomen was normal. On bimanual exam it was

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difficult to determine whether the intra-abdominal mass was due to uterine enlargement or an adnexal mass. On recto-vaginal examination, however, a small retroverted uterus which was being displaced downward by the abdominal mass was palpable within the cul-de-sac. The ovaries could not be identified by physical examination and one could not determine whether the mass arose from the right or left side.

Dr. Friesen: Dr. Buck, if a pelvic exam had not been done but the clitoral enlargement was seen and the presence of an abdominal mass palpated, do you feel that the hair distribution and the small breasts would call your attention to anything abnormal? Were these secondary sexual characteristics definitely abnormal, Dr. Buck?

Dr. Buck: Yes, I believe so. These findings together with the voice changes and facial hair are definite evidence of masculinization.

Dr. Friesen: Do we have further work-up?

Dr. Buck: The routine laboratory findings were within normal limits. The 17-ketosteroids were reported as 17.9 mg. per 24 hour urine specimen. The normal range of values is 5 to 15 mg. per 24 hours, and, therefore, this value was slightly above the upper limits of normal.

Dr. Friesen: Dr. Tice, may we see the x-rays?

Dr. Tice: The chest films are normal. The intravenous pyelogram shows slight dilatation of the collecting system and poor function on the right. The bladder fills and is smooth in outline with some extrinsic pressure on its superior aspect. There is a generalized "ground glass" appearance of the abdomen which suggests fluid and is also consistent with a large cystic lower abdominal mass.

Dr. Friesen: Do you see any teeth or bone within the abdominal mass?

Dr. Tice: No, there are none.

Dr. Friesen: What was done next?

Dr. Buck: Preoperatively we had concluded that the findings could be explained on the basis of a functioning ovarian neoplasm. An exploratory laparotomy was carried out and upon entering the abdominal cavity we saw a large cystic mass arising from the region of the left ovary. The abdominal contents were displaced cephalad by the pelvic mass. The mass was attached by a small stalk and replaced the left ovary but was not attached to any other abdominal or pelvic structures. The pedicle was clamped and the mass was resected without difficulty.

Dr. Friesen: Is the diagnosis of "functioning tumor of the ovary" satisfactory or can you be more specific?

Dr. Buck: It is usually not possible to be specific and from the clinical point of view it is not necessary inasmuch as masculinization in the presence of

a palpable abdominal mass makes an exploratory laparotomy mandatory. An arrhenoblastoma is the most likely tumor, however, other masculinizing tumors such as the hilus cell tumor, adrenal rest tumor, gynandroblastoma and others and even granulosa-theca cell tumors have been associated with masculinization.

Dr. Friesen: Can you differentiate between these clinically or with the aid of the laboratory?

Dr. Buck: There are certain generalities that can be applied but no definite distinction can be made as far as I know.

Dr. Friesen: Dr. Rockwell, are there any other clinical features we should discuss before hearing the pathologist?

Dr. Rockwell: It would appear preoperatively that we are dealing with a functioning ovarian neoplasm which is producing androgen since we have virilization of this woman. The two major sources of androgen are the adrenal and the gonad. The adrenal produces several weak androgens, the major one being dehydroisoandrosterone. The total adrenal output of dehydroisoandrosterone is approximately 30 mg. per day. Testosterone is a potent androgen and is the major androgen produced by the gonad. It is, for example, approximately 30 times as potent as dehydroisoandrosterone. When dealing with adrenal virilization one usually has a notably elevated 17-ketosteroid since a large amount must be produced in order to produce virilization. The ovary, on the other hand, produces approximately 1 mg. per day of testosterone. Since testosterone is very potent as compared to the adrenal androgen, it is not unusual in the case of an ovarian lesion to obtain borderline or normal values. We have an individual in this case whose 17-ketosteroids are near normal, and, therefore, these findings favor the ovary as a source of the hormone rather than the adrenal.

Dr. Friesen: Does the degree of virilization help you in deciding whether it is arising from the adrenal or gonad? Is the "bearded circus lady," for example, more likely to have a disorder of the ovary or the adrenal?

Dr. Rockwell: The same degree of virilization may arise from either source. Certainly, the ovarian hormone is more potent and will produce more virilization.

Dr. Friesen: Does the degree of clitoral enlargement help?

Dr. Rockwell: No, it means only that she is being virilized but does not indicate the source of the hormone.

Dr. Friesen: This degree of clitoral enlargement seems quite striking to me. Was this a psychologic problem in any way?

Dr. Buck: There was no psychologic problem insofar as we could ascertain. The patient was very shy, however, and gave what history we have with difficulty.

Dr. Friesen: Dr. Mantz, would you describe the pathology for us please?

Dr. Mantz: The left ovary (*Figure 1*) was severely altered. It was cystic, ovoid, weighed 940 gm. and measured 20 cm. in greatest diameter. The left oviduct was attached and only a scant amount of recognizable residual ovarian tissue was recognized on the external surface. Approximately 200 ml. of watery

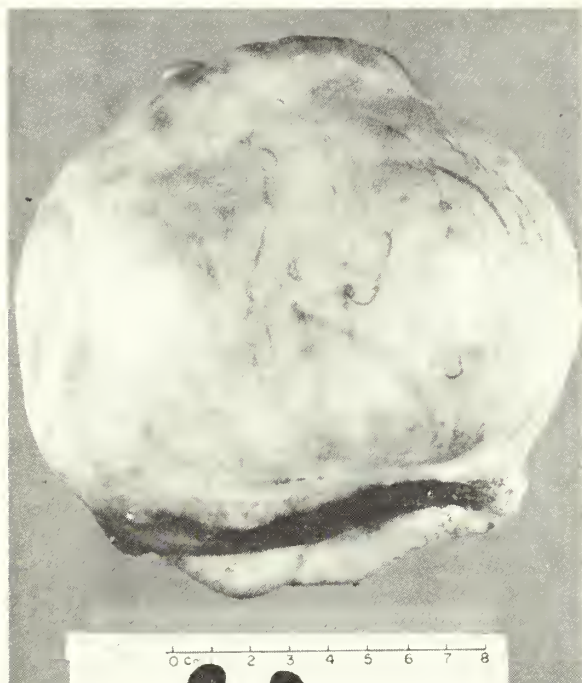


Figure 1. Cystic androblastoma (arrhenoblastoma) replacing left ovary.

blood-tinged fluid was contained within the cystic cavity. The cyst wall (*Figure 2*) was made up of many lobular masses of tissue, some of which were hemorrhagic and others appeared to be distinctly fleshy. In many areas the most striking feature was the yellow color of the fleshy tumor. Histologically, the appearance is somewhat characteristic. In many of the lobules one sees a remarkable tubular pattern. Although these tubules do not represent a very close approximation of testicular structures, I can assure you that developmentally they represent an attempt to form such structures. They are lined by epithelial cells which have some resemblance to sertoli type elements in that many of them appear to have an abundance of clear cytoplasm, presumably indicating a high lipid content. The great majority of the lesion, however, was not epithelial, the stromatous element

appearing to predominate (*Figure 3*). Fusiform and spindle-shaped cells were present showing a tendency to arrange themselves in bundles. In some areas of this stromatous tissue, scattered cells suggest an epithelial morphology. These occasionally contain crystalloid inclusions characteristic of Leydig cells. Rare mitotic figures lend a somewhat ominous note to the histologic morphology. In other areas the direct transition from tubular to sarcomatoid pattern is quite apparent. Fat stains disclose a rich lipid content in many of the tumor cells.

There were many other interesting features in this case. You will recall from the history that she had had regular menses until May, 1963. Although she was amenorrheic at the time of surgery, the endometrium was exceedingly exuberant and presented a polypoid appearance. Although suggestive of cystic hyperplasia, the endometrial glands appeared relatively inert from which I conclude that there had been previous hyperplasia now undergoing involution.

The right ovary was enlarged exhibiting cortical thickening and numerous cysts which appeared to be of the follicular variety (*Figure 4*). Histologic examination bears this out. The tunica albuginea of the right ovary is fibrotic and the remaining ova are



Fig. 2. Fleshy lobular tissue lining cyst in androblastoma (arrhenoblastoma) of left ovary.

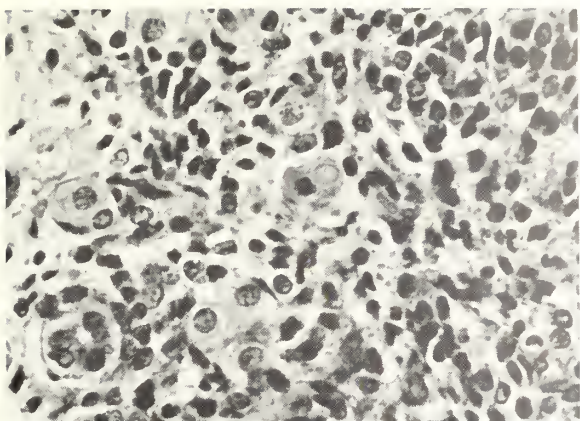


Figure 3. Sarcomatoid pattern with Leydig cells, androblastoma (arrhenoblastoma) left ovary.

shoved downward toward the medullary area. The cysts are of the follicular type lined with granulosa cells and the adjacent fibrous stroma faintly suggests luteinization of the theca externa. The stroma throughout is quite abundant and composed of spindle cells similar to those within the arrhenoblastoma of the opposite side. Also within the stroma one can distinguish cells referred to as stroma-lutein cells. These changes are pathognomonic of stromal hyperplasia and the over-all picture is entirely consistent with the "Stein-Leventhal ovary."

It is highly significant that this androblastoma is associated with stromal hyperplasia of the opposite ovary since it emphasizes the gonadal stromal origin of the lesion. Granulosa theca cell tumors, the feminine counterpart of arrhenoblastoma, likewise shows this association frequently.

It is useful to classify ovarian tumors from an embryological point of view. Initially the gonadal anlage consists of an undifferentiated mass of mesenchyme covered by a layer of peritoneum and without gonadal function. In due course stromal differentiation of a truly gonadal nature occurs although sex differentiation cannot be made morphologically. Further along the primitive gonad is invaded by germinal tissue. If it is invaded by ova an ovary is formed and, if invaded by the primitive spermatogonia, a testis.

If we divide ovarian tumors into reflections of these various developmental stages, they are more readily understood. There are many ovarian tumors which represent only structures present during the phase of development before differentiation has occurred. I would include such lesions as the fibroadenomas, serous and mucinous cystadenomas and their malignant counterparts.

Tumors derived from elements present following gonadal stromal differentiation are represented by the stromal neoplasms which have the capacity of

function in masculinizing or feminizing hormonal production. The gonadoblastic tumors, therefore, include androblastomas (arrhenoblastoma), granulosa theca cell tumors and mixed types.

Finally, neoplasms may be derived from the germ cells which migrate into the gonad to create the fully developed ovary. These are represented by the dysgerminomas, embryonal carcinoma, teratomas and trophoblastic carcinomas.

We must also include in this classification allowance for the fact that there may be incorporated within the developing ovary certain structures representing congenital rests of adjacent organs such as mesonephric structures, adrenal rests and so forth which rarely give rise to what may appear to be primary tumors of the ovary. These we may call hamartomas.

Today we deal with a neoplasm which falls into the classification of androblastoma or arrhenoblastoma as they are frequently called. These as you would expect, tend to undergo functional activity of the hormonal variety usually elaborating androgenic hormones. Rarely, however, lesions with this morphology may produce feminizing substances as Dr. Buck has pointed out. They may be totally differentiated



Figure 4. Polycystic right ovary with stromal hyperplasia (Stein-Leventhal) and polypoid hyperplasia of endometrium.

accurately reproducing testicular-like tubules of fetal variety, or markedly undifferentiated and of sarcomatoid pattern. Mixed morphologic types frequently occur and it is with such a lesion that we deal today. This tumor is a true androblastoma (arrhenoblastoma) which, I believe, is behaving in a rather benign manner. Oddly enough, the better differentiated androblastomas may show little or no hormonal activity while the less differentiated neoplasms may produce hormone in large amounts.

This is a tumor which is relatively rare, constituting probably less than two per cent of ovarian neoplasms. It is usually unilateral but may be bilateral in five per

cent or less of the cases. Although it is important to consider these lesions as basically malignant the prognosis is in general relatively good and the over-all survival rate is approximately 97 per cent.

Dr. Friesen: Dr. Mantz, do you mean when you say these tumors are basically malignant that they usually metastasize.

Dr. Mantz: No, but they are capable of metastasizing.

Dr. Friesen: Dr. Rockwell, I would have thought since this tumor secretes an androgen that the end organs, namely the uterus and perhaps the other ovary might return to normal following removal of this functioning tumor and yet you have removed the uterus and the other ovary. They have shown some abnormal findings but would you expect these findings, or was this the reason for their removal after the tumor had been removed.

Dr. Rockwell: Several years ago Javert and Finn reviewed all the reported arrhenoblastoma at that time and found that approximately 23 per cent were clinically malignant and that another three to four per cent were morphologically malignant. I believe the surgeon in this case felt he was dealing with a malignant tumor and, therefore, removed the opposite ovary and the uterus.

Dr. Mantz: There is much to support the type of therapy employed here. I believe most pathologists who have studied this type of lesion would acknowledge that they cannot predict benign or malignant behavior with certainty on the basis of the histology.

Dr. Rockwell: Dr. Mantz, how do you think this tumor would have behaved?

Dr. Mantz: I would be highly suspicious that this tumor would have exhibited malignant behavior but feel incapable of rendering an absolute opinion in this regard. The law of averages would favor a benign course following total excision.

Dr. Rockwell: These tumors are similar to the granulosa-theca cell tumors which have about the same survival rate. In a young girl, such as we have in this case, where you have the more common variety of arrhenoblastoma which does not suggest malignancy on histologic examination it is perfectly acceptable to do an unilateral oophorectomy and go no further. If the surgeon feels that he is dealing with a malignancy, then I believe that you are taking an unnecessary chance if you leave the uterus and opposite ovary behind. Ovarian tumors tend to metastasize via the lymphatics, behind the uterus to the opposite ovary and I am sure that this thought was in the surgeon's mind.

Dr. Friesen: Was it really fortuitous, as it turned out, that the other ovary and tube and uterus were taken out? Are the Stein-Leventhal findings on the

other side cause for concern or would they have been reversible following removal of the functioning tumor?

Dr. Rockwell: No, I do not believe these additional findings are cause for concern. I presume that she would have returned to cyclic menstrual bleeding following removal of this tumor.

Dr. Friesen: Is estrogen being secreted by an arrhenoblastoma?

Dr. Rockwell: Dr. Mantz pointed out that sertoli-like cells were present within this tumor and there are those who feel that feminization is due to hormones arising from these cells. Others feel that the Leydig cell is the site of origin. If estrogen was being produced it certainly was minor and the predominate function was that of an androgenic tumor. The completely tubular variety or the so-called Pick's adenoma can probably produce estrogens and actually feminize.

Dr. Friesen: I was considering the fact that the endometrium showed evidence of estrogen stimulation.

Dr. Mantz: I believe that there was ample evidence that she had been hyperestrinized in the past. There was polypoid hyperplasia of the endometrium, but at the time the uterus was removed it appeared to be regressing. There was ample evidence that the hyperplasia had existed in the past in a somewhat florid manner and this fits quite well with the hyperplastic stroma within the ovary. The Stein-Leventhal ovary cannot be completely excluded as having some relationship to cancer. It has been associated with carcinoma of the endometrium in young individuals and quite a larger series of such cases have been collected at the Mayo Clinic and elsewhere as well.

Dr. Friesen: Dr. Mantz, in your opinion do you feel that the other ovary should have been removed in any case?

Dr. Mantz: I do not consider it an error in judgment that the other ovary was removed.

Dr. Friesen: Where do the metastases occur other than the other ovary?

Dr. Mantz: To the peritoneum and to the lung mainly.

Dr. Friesen: Do the metastases produce androgens?

Dr. Mantz: They certainly may be hormonally active.

Dr. Friesen: The first complaint which brought her to the institution was hoarseness. Is there an anatomic explanation for this hoarseness?

Dr. Rockwell: No, I do not believe there is any recognizable feature on physical examination of the larynx which would lead one to suspect this tumor.

Dr. Friesen: What happens to the secondary sex characteristics following removal of the tumor?

Dr. Rockwell: The voice changes and clitoral enlargement are usually permanent. There may be some decrease in the hirsutism in some patients.

Dr. Buck: One interesting feature of the post-operative course was that the acne began to clear promptly following operation.

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Heart Attack?

(Continued from page 168)

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Ruptured Esophagus

(Continued from page 171)

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THE KANSAS MEDICAL SOCIETY

Annual Meeting

May 4, 5 & 6, 1964

Topeka

Plan Now to Attend

The President's Message

DEAR DOCTOR:

Of much interest to every one, I believe, will be the program to be given at the annual banquet on Tuesday evening of the state meeting in Topeka. Captain Frank B. Voris, MC, USN, Chief of Human Research, N.A.S.A., has been secured as the speaker and as he stands at the top of his field I feel certain that he will be enjoyed by both the doctors and their wives. Those who have heard him previously have been liberal in their praise.

Most of the committees have or are now completing their work for the year and will have much to report at the meeting.

This is to be my last report. I sincerely thank the profession for the help and advice during the past year.



Sincerely,

H. St. Clair O'Donnell M.D.

President

WELCOME TO TOPEKA

Your colleagues in Shawnee County and Topeka extend a warm invitation to join them at the State Convention, May 4, 5 and 6.

We are pleased to announce that the meetings this year will be held in the Municipal Auditorium in downtown Topeka. This will assure good facilities and optimum convenience since the House of Delegates will convene at the nearby Hotel Jayhawk.

The scientific program has been designed to cut across specialty lines and to interest all members of the Society. A clinical seminar with case studies is scheduled for Tuesday morning, and paper discussions are planned for both Tuesday afternoon and Wednesday morning. In keeping with the general theme of the program, "Medical Problems in Adolescent Patients," the professional exhibits will include contributions from several high schools and a number of paramedical groups with special interests in this subject.

Socially, the activities will be ample and varied, including a fine schedule for the wives, as always.

The annual convention, this year the 105th, offers a wonderful opportunity to renew statewide friendships, as well as to meet for formal business and study. We hope you will enjoy the hospitality of Topeka and we look forward to seeing many of you at that time.

Cordially yours,

Richard R. Beach, M.D.

President, Shawnee County Medical Society

105th Annual Session, Kansas Medical Society

Monday, May 4, through Wednesday, May 6, 1964

SCIENTIFIC SPEAKERS



THOMAS E. CONE, JR., M.D.
Boston, Massachusetts

Dr. Thomas E. Cone, Jr., received his medical degree from Columbia University College of Physicians and Surgeons, New York, in 1939. He is now senior associate in medicine at the Children's Hospital Medical Center in Boston. He serves as associate physician in the hospital's Adolescents' Unit, and as director of ambulatory services of the Outpatient Department there.

Before coming to Boston, Dr. Cone was chief of the Pediatric Service of the National Naval Medical Center, Bethesda, Maryland; Clinical Professor of Pediatrics at Georgetown and Howard University Schools of Medicine, and a Lecturer in Pediatrics at the Johns Hopkins Medical School.

Dr. Cone was certified by the American Board of Pediatrics in 1951.

Dr. John A. D. Cooper is Associate Dean at Northwestern University Medical School. He is also Dean of Sciences, director of the Integrated Program in Medical Education, associate on the Dean of Faculties, and a member of the Graduate School Faculty. He was Visiting Professor in the Department of Biophysics at the University of Brazil (1956) and at the University of Buenos Aires (1958). He is on the attending staff of Passavant Memorial Hospital, and the consulting staff of the Veterans Administration Hospital in Chicago.

He received a B.S. degree in chemistry from New Mexico State College in 1939, and continued graduate work at Northwestern University, receiving a Ph.D. in biochemistry in 1943, and his medical degree in 1951.

Dr. Cooper is presently editor of the *Journal of Medical Education*, and holds many and varied other positions, among which is his membership on the Committee on Isotopes Distribution, Subcommittee on Human Applications, of the U. S. Atomic Energy Commission.



JOHN A. D. COOPER, M.D.
Evanston, Illinois



PETER C. KUIPER, M.D.

Amsterdam, Holland

Dr. Peter C. Kuiper was born in Soesdijk, Holland. A former student of theology and classical literature, he studied medicine and philosophy at the University of Utrecht and later did residency training at the University hospital and clinic.

After working in Amsterdam in social psychiatry and child guidance, he joined the staff of the University of Groningen in 1953, and served as deputy chief of the University Psychiatric Hospital and Lecturer in Clinical Psychiatry and Depth Psychology. He is presently head of the Wilhelmina Gasthuis Psychiatric Clinic and Professor of Psychiatry at the University of Amsterdam.

Dr. Kuiper was the eleventh Sloan Professor for the Menninger School of Psychiatry in 1960. He will be Visiting Professor to the Menninger School of Psychiatry from April to June of this year.

Dr. Clinton W. Lane is Professor of Clinical Dermatology at Washington University School of Medicine. He serves as dermatologist-in-chief at the Barnes and St. Louis Children's Hospitals, senior dermatologist at the Jewish Hospital, consultant in dermatology at St. Luke's and St. Louis City Hospitals, and on the courtesy dermatologic staff of the Evangelical Deaconess Hospital.

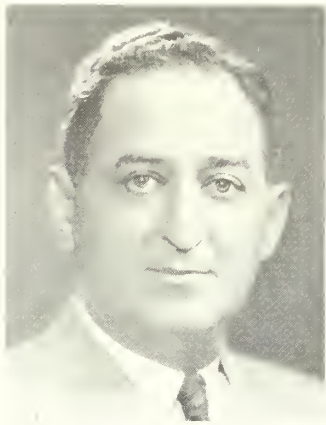
He graduated with an A.B. degree from St. Marys College, St. Marys, Kansas, in 1916, and received his medical degree from St. Louis University School of Medicine in 1921.

Dr. Lane was certified by the American Academy of Dermatology and Syphilology in 1934, and served for three years on the board of directors of the Academy.



CLINTON W. LANE, M.D.

St. Louis, Missouri



CHARLES N. PEASE, M.D.
Chicago, Illinois

Dr. Charles N. Pease is chairman of the Department of Orthopedic Surgery at the Children's Memorial Hospital, and attending orthopedic surgeon at Alexian Brothers and Columbus Hospitals in Chicago.

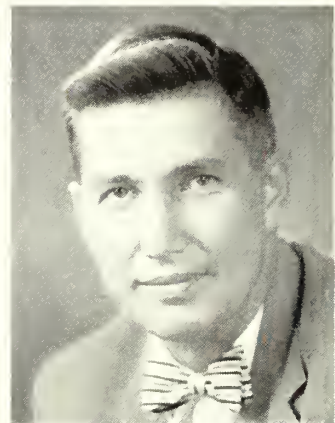
He graduated from the University of Chicago in 1919 and received his degree in medicine from Rush Medical College in 1922. After interning at the Los Angeles County Hospital in California, he continued with postgraduate training at the Home for Destitute Crippled Children from 1924 to 1931.

Dr. Pease was certified by the American Board of Orthopaedic Surgery in 1936. He has served in various offices of the American Academy of Orthopedic Surgeons and in 1954 was editor of the *Instructional Course Lecture Volume* published by the Academy.

Dr. Toussieng is a staff psychiatrist at the Menninger Clinic, where he previously received his advanced training in child psychiatry. His present duties include examination, treatment, teaching and research.

Dr. Toussieng is a native of Denmark and received his M.D. degree from the University of Copenhagen in 1945. After his Danish internship, he served in the medical corps of the Royal Danish Navy. Later he worked in various hospitals and in private practice in Denmark before coming to the United States in 1949. After serving an American internship in Kansas City, Missouri, he entered a three-year psychiatric residency in the Menninger School of Psychiatry program at the Topeka State Hospital in 1950. Upon completion of this residency, he began his advanced training in child psychiatry and joined the staff of the Children's Service of the Menninger Clinic in 1955.

Dr. Toussieng is a Fellow of the American Orthopsychiatric Association, and a member of several national professional organizations.



POVL W. TOUSSIENG, M.D.
Topeka, Kansas

President and President-Elect



H. ST. CLAIR O'DONNELL, M.D., *President*
Ellsworth, Kansas



JOHN C. MITCHELL, M.D., *President-Elect*
Salina, Kansas

Banquet Speaker

Captain Frank B. Voris, MC, USN, Chief of Human Research, Biotechnology and Human Research Division, Office of Advanced Research and Technology, National Aeronautics and Space Administration, received his Doctor of Medicine degree from the University of Illinois and served as Resident Surgeon at the St. Francis Hospital, Miami Beach, Florida. From 1937 to 1941 he was engaged in private surgical practice in Miami Beach, Florida.

Dr. Voris was called to active duty with the Navy in September 1941 as Lieutenant (junior grade) in the Medical Corps, and subsequently advanced in rank attaining that of Captain in July 1955. Between March and July 1942 he attended a course in aviation medicine at the Naval School of Aviation Medicine, Pensacola, Florida, and upon completion of this course was designated Naval Flight Surgeon. In 1947 he returned to Pensacola and was designated Naval Aviator upon completion of flight training. Among his numerous assignments, he has served as Head of the Special Activities Branch, Bureau of Medicine and Surgery, Navy Department, Washington, D. C.; 1955-57 he was Senior Medical Officer on the USS Forrestal; and since July 1961 has been with the National Aeronautics and Space Administration.

He is a Past Chairman (1962) of the Space Medicine Branch of the Aerospace Medical Association; and in 1960 was Vice President for Aviation Medicine of the American College of Preventive Medicine. He is a Diplomate in Aviation Medicine, American Board of Preventive Medicine. In 1952 he was awarded the Founder Medal of the Association of Military Surgeons of the United States; and in September 1962 he received from the American Medical Association a Special Aerospace Medicine Honor Citation for service to the nation and to medicine in the successful orbital flights of the American astronauts.

What's Going on at the 105th Annual Meeting?

- **House of Delegates**
Hotel Jayhawk—Monday and Wednesday
- **General Sessions**
Auditorium—Tuesday and Wednesday
- **Luncheons—Guest Speakers**
Auditorium—Tuesday
Hotel Jayhawk—Wednesday
- **Exhibits—Commercial and Scientific**
Auditorium—Tuesday and Wednesday
- **Specialty Group Meetings**
 - E.E.N.T. Section
Auditorium—Tuesday
 - Kansas Society of Anesthesiology
Holiday Inn South—Wednesday
 - Kansas Society of Pathologists
Auditorium—Wednesday
 - Kansas Pediatric Society
Hotel Jayhawk—Wednesday

SPECIAL EVENTS

MONDAY

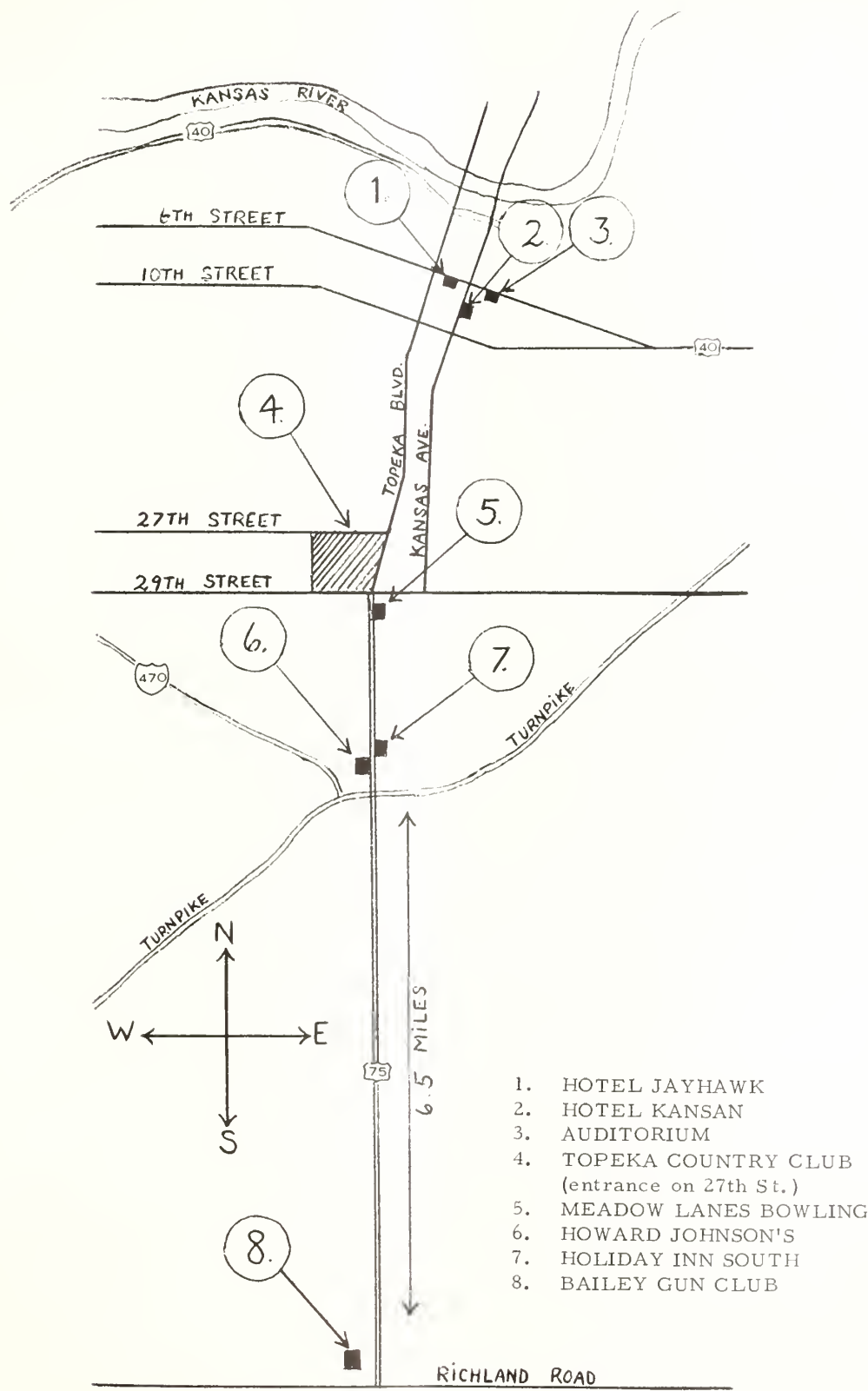
- **Sports Day**
 - Golfing—Topeka Country Club
 - Bowling—Meadow Lanes
 - Shooting—Bailey Gun Club
 - Cocktail Hour and Banquet—Topeka Country Club

TUESDAY

- **Reception—K.U. Medical Alumni Association**
Hotel Jayhawk, Florentine Room
- **Annual K.M.S. Banquet—Guest Speaker—Entertainment**
Hotel Jayhawk, Roof Garden

(see program for time schedule)

Here's Help to Find Where You Want to Go . . .



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House of Delegates Breakfast Meeting—7:30 a.m. Page 187

Kansas Medical Golf and Skeet Shooting Association Page 187

Coektail Hour and Sports Banquet—6:30 p.m. Page 187

TUESDAY, MAY 5

General Sessions—9:00 a.m. Page 188

Exhibit of Dermatological and Orthopedie Clinieal Cases

Panel Diseussion: Charles N. Pease, M.D.

Clinton Lane, M.D.

Harry Kroll, M.D.

Luncheon—John A. D. Cooper, M.D., Speaker—12:00 noon

General Sessions—1:30 p.m. Page 189

Papers by: Clinton Lane, M.D.

Charles N. Pease, M.D.

Panel Diseussion: Clinton Lane, M.D.

Charles N. Pease, M.D.

Chester M. Lessenden, M.D.

Lynn Litton, M.D.

Gordon Sauer, M.D.

TUESDAY EVENING Page 189

Reeption—University of Kansas Medical Alumni—5:30 p.m.

Annual Banquet—7:00 p.m.

Captain Frank B. Voris, M.C., U.S.N., Speaker

WEDNESDAY, MAY 6

General Sessions—9:30 a.m. Page 190

Papers by: Thomas Cone, Jr., M.D.

Povl Toussieng, M.D.

Panel Diseussion: Thomas Cone, Jr., M.D.

Povl Toussieng, M.D.

Herbert C. Miller, M.D.

Luncheon—Peter C. Kuiper, M.D., Speaker—12:30 p.m.

House of Delegates Seend Meeting—2:00 p.m.

Specialty Society Meetings Page 191

Woman's Auxiliary to the Kansas Medical Society Page 192

Kansas Medical Assistants Society Page 193

Hosts for Meeting

Topeka Physicians Arranging 1964 Session

GENERAL CHAIRMAN—LOUIS COHEN, M.D.

PROGRAM COMMITTEE

John E. Crary, M.D.

SCIENTIFIC EXHIBITS

William Nice, M.D.

Monday, May 4, 1964

HOUSE OF DELEGATES

7:30 Breakfast and Meeting
Hotel Jayhawk, Florentine Room

KANSAS MEDICAL GOLF AND SKEET
SHOOTING ASSOCIATION

Thomas F. Taylor, M.D., Phillipsburg, President

William H. Crouch, M.D., Topeka, Chairman

Greens and bowling lanes will be available all day

Golf—Topeka Country Club, 27th & Buchanan Streets

Bowling—Meadow Lanes, 3118 South Topeka Avenue

Shooting—Bailey Gun Club, 10 miles south on Hwy. 75 from 10th & Topeka, or 6½ miles south of south Turnpike entrance.

6:30 Cocktail Hour—Sports Banquet—Topeka Country Club

TELEPHONE NUMBER

CE 5-2383

Tuesday

Municipal Auditorium

MORNING

7:30 PAST PRESIDENTS' BREAKFAST—HOTEL JAY-
HAWK, SENATE ROOM

8:00 REGISTRATION—TICKETS—INFORMATION
MUNICIPAL AUDITORIUM, SOUTH EN-
TRANCE

9:30 REFERENCE COMMITTEES—MUNICIPAL AU-
DITORIUM

Committee No. 1—Room 102

Committee No. 2—Room 103

FIRST GENERAL SESSION

9:00 EXHIBIT OF DERMATOLOGICAL AND ORTHO-
PEDIC CLINICAL CASES—ROOM 101

10:30 WELCOME TO TOPEKA

Richard R. Beach, M.D., President
Shawnee County Medical Society

10:45 PANEL DISCUSSION OF CLINICAL CASES
Chester M. Lessenden, M.D., Topeka, *presiding*

Participants: CHARLES N. PEASE, M.D.
Chicago

CLINTON LANE, M.D.
St. Louis

HARRY KROLL, M.D.
Topeka

11:30 INTERMISSION TO VIEW COMMERCIAL AND
SCIENTIFIC EXHIBITS

NOON

12:00 LUNCHEON—MUNICIPAL AUDITORIUM EX-
HIBIT HALL

Richard R. Beach, M.D., presiding
TOMORROW'S CHALLENGES FOR MEDICAL
EDUCATION

John A. D. Cooper, M.D., Evanston, Illinois

The increasing demands for health care by the popu-
lation and the expanding knowledge in medicine pose

serious challenges for the education of physicians. New
developments in education in the secondary schools and
universities make it necessary to reconsider the content
of the medical school program.

The integrated program in medical education at
Northwestern provides flexibility in the total educational
span for the medical student and takes advantage of the
superior preparation of bright students in their high
school programs. The nature of the integrated program
and experience with three classes will be discussed.

TELEPHONE NUMBER

CE 5-2383

May 5, 1964

Municipal Auditorium

AFTERNOON

SECOND GENERAL SESSION

Richard Greer, M.D., Topeka, *presiding*

1:30 SKIN PROBLEMS OF ADOLESCENCE

Clinton Lane, M.D., St. Louis

Most skin eruptions of the adolescent are similar to those occurring in older adults and even in small children. However, due to the increased physical activities of the teenager, there are certain dermatoses peculiar to individuals in this age group. Exercise, friction, trauma and perspiration are important factors in the production of skin irritations. Certain other sensitization reactions on the skin surface are related to heredity, and are part of an allergic diathesis. These often begin in infancy, persist through childhood and are sources of discomfort and irritation to the high school student. Bacterial, fungal and viral infections invade the youthful skin, precipitated by exercise and sweat, and at times prolonged by carelessness, indifference, lack of proper cleanliness and a "just cannot be bothered attitude." At the time of puberty many glands are over-active including those of the sebaceous systems. Acne and seborrhea appear in this period, with their chief sites of involvement, the face, neck and upper trunk. These eruptions are the source of much embarrassment and frequently of a futility attitude, unless properly treated and even then they fail to respond to therapy as quickly as the patient desires. The attitude of the physician in these frustrating diseases should be one of sympathy, interest, guidance to proper health measures and the insistence on cooperation of the prescribed therapy.

2:15 INTERMISSION

THIRD GENERAL SESSION

John Crary, M.D., Topeka, *presiding*

2:45 ORTHOPEDIC PROBLEMS OF ADOLESCENCE

Charles N. Pease, M.D., Chicago

The approach to this subject is predicated mainly on the treatment of children in the pre-adolescent period so that the orthopedic problems in the adolescent period would be minimal. These include conditions of the spine, hips and feet and the treatment of the respective disabilities.

3:40 PANEL DISCUSSION

Harry Kroll, M.D., Topeka, *presiding*

Participants: CLINTON LANE, M.D.
St. Louis

CHARLES N. PEASE, M.D.
Chicago

CHESTER M. LESSENDEN,
M.D., Topeka

LYNN LITTON, M.D.
Kansas City (KUMC)

GORDON SAUER, M.D.
Kansas City (KUMC)

EVENING

Annual Banquet—Hotel Jayhawk, Roof Garden

5:30 RECEPTION—Hosts: K. U. Medical Alumni Association
Hotel Jayhawk, Florentine Room

7:00 DINNER—H. St. Clair O'Donnell, M.D., Ellsworth, *presiding*

THE PROBLEMS OF SURVIVAL IN SPACE EXPLORATION

Captain Frank B. Voris, M.C., U.S.N., Chief of Human Research,
National Aeronautics and Space Administration

10:00 DANCING

TELEPHONE NUMBER

CE 5-2383

Wednesday, May 6, 1964

Municipal Auditorium

MORNING

FOURTH GENERAL SESSION

Bartlett Ramsey, M.D., Topeka, *presiding*

9:30 HOW ARE CHILDREN GROWING

Thomas Cone, Jr., M.D., Boston, Mass.

Are our children growing taller and maturing earlier than previously? In this presentation, the accelerative trends in statural size and earlier biologic maturation noted in children in the western world during the past century will be traced. These growth trends in both European and North American children will be compared.

10:05 INTERMISSION

11:20 PANEL DISCUSSION

Participants: THOMAS CONE, JR., M.D., Boston
POVL TOUSSIENG, M.D., Topeka
HERBERT C. MILLER, M.D., Kansas City

NOON

12:30 LUNCHEON—HOTEL JAYHAWK, ROOF GARDEN

Jack A. Dunagin, M.D., Topeka, *presiding*

SCIENCE AND REASON

Peter Kuiper, M.D., Holland—Visiting Professor, Menninger School of Psychiatry

2:00 HOUSE OF DELEGATES SECOND MEETING

TELEPHONE NUMBER

CE 5-2383

Specialty Society Meetings

May 5-6, 1964

TUESDAY

EYE, EAR, NOSE AND THROAT SECTION

Municipal Auditorium, Room 201
Max S. Lake, M.D., Salina, President

2:00 BUSINESS AND SCIENTIFIC MEETING

VASOMOTOR RHINITIS SYNDROME AS A
CLINICAL ENTITY
Joseph A. Budetti, M.D., Wichita

NEW APPROACHES TO OLD OPHTHALMO-
LOGICAL PROBLEMS
B. John Ashley, Jr., M.D., Topeka

WEDNESDAY

KANSAS SOCIETY OF ANESTHESIOLOGY

Roger H. Robinson, M.D., Wichita, President

12:00 LUNCHEON-BUSINESS MEETING
Holiday Inn South—Downstairs Meet-
ing Room

KANSAS SOCIETY OF PATHOLOGISTS

Municipal Auditorium, Room 102
Ralph J. Rettenmaier, M.D., Kansas City, Pres-
ident

10:00 BUSINESS MEETING

KANSAS PEDIATRIC SOCIETY

Hotel Jayhawk
Mary Blood, M.D., Wichita, President

2:00 DIABETES IN ADOLESCENTS
Thomas E. Cone, Jr., M.D., Boston

2:45 PREGNANCY IN ADOLESCENTS
William R. Roy, M.D., Topeka

3:30 COFFEE

3:45 OBESITY IN ADOLESCENTS
Thomas E. Cone, Jr., M.D., Boston

4:30 PANEL:
Thomas E. Cone, Jr., M.D., Boston
William R. Roy, M.D., Topeka
Herbert C. Miller, M.D., Kansas City

TELEPHONE NUMBER

CE 5-2383

Woman's Auxiliary to the Kansas Medical Society

May 4-6, 1964, Municipal Auditorium

Monday, May 4

9:00- 4:00	REGISTRATION, EXHIBITS—Municipal Auditorium	1:00	"AROUND THE WORLD LUNCHEON"—Honoring Mrs. John M. Chenaault, Decatur, Alabama, National First Vice President—Hotel Jayhawk, Roof Garden
10:00	PRE-CONVENTION BOARD OF DIRECTORS MEETING—Municipal Auditorium		AWARDS FOR WINNING EXHIBITS
12:30	PAST STATE PRESIDENTS' LUNCHEON—Hotel Jayhawk, Gold Room	3:00	POST-CONVENTION BOARD OF DIRECTORS MEETING—Hotel Jayhawk, Roof Garden
2:00- 4:00	WELCOMING TEA—Governor's Mansion, Cedar Crest	7:00	ANNUAL KANSAS MEDICAL SOCIETY BANQUET—Hotel Jayhawk, Roof Garden
6:00- 7:00	SOCIAL HOUR—Dr. and Mrs. D. L. Tappen, 2844 Burlingame Road		Capt. Frank B. Voris, M.C., U.S.N., Chief of Human Research, N.A.S.A., Guest Speaker.
7:30	BUFFET—Honoring State Officers—Holiday Inn South Buccaneer Club, Parisian Room, 3802 Topeka Avenue		

Tuesday, May 5

8:30- 4:00	REGISTRATION, EXHIBITS—Municipal Auditorium	9:30	TOUR OF MENNINGER FOUNDATION (Bus transportation from Hotel Jayhawk)
9:00-12:00	GENERAL SESSION—Hotel Jayhawk, Florentine Room	11:30-12:15	LUNCHEON—Dining Room, C. F. Menninger Memorial Hospital

Wednesday, May 6

8:30	REGISTRATION—Municipal Auditorium
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TELEPHONE NUMBER

CE 5-2383

Kansas Medical Assistants Society

May 2-4, 1964, Holiday Inn South

Saturday Evening, May 2

7:00 REGISTRATION—Lobby

8:00 HOSPITALITY PARTY—"NEW YEAR'S EVE"—
*Courtesy Munns Medical
Supply Company*

Sunday, May 3

8:00 EXECUTIVE BOARD MEETING

"EASTER MORNING" COFFEE

Shawnee County Medical Assistants Society
REGISTRATION—Lobby

10:00 CALL TO ORDER

*Carol Maukle, Iola, President
Kansas Medical Assistants Society*

10:15 WELCOME

*Richard R. Beach, M.D., President
Shawnee County Medical Society*

10:25 RESPONSE

*H. St. Clair O'Donnell, M.D., President
Kansas Medical Society*

10:35 BUSINESS SESSION—Election of 1964-65
Officers

12:00 PRESIDENT'S "VALENTINE'S DAY" LUNCHEON

1:30 BUSINESS SESSION RECONVENES

2:00 AS I SEE YOUTH TODAY

*James F. Coder, Counselor
Topeka High School*

3:00 FICTION, FOOLISHNESS, AND FANTASIES

*Mrs. Dorothy Paul
Topeka*

6:30 "CHRISTMAS DAY" BANQUET

Monday, May 4

8:00 "FOURTH OF JULY" COFFEE

Douglas County Medical Assistants Society

9:00 REGISTRATION—Lobby

9:30 CALL TO ORDER AND ANNOUNCEMENTS

*Carol Maukle, President
Kansas Medical Assistants Society*

9:45 GREETING

*Marilyn Young, Topeka, President
Shawnee County Medical
Assistants Society*

10:00 FAMILY BREAKDOWN IS A COMMUNITY RE-
SPONSIBILITY

*Mrs. Kay Zurbucken, Topeka
Administrative Director
Shawnee County Guidance Center*

11:00 DECISIONS VS. JUDGES OF PROBATE COURT

*Honorable Newton E. Vickers, Topeka
Judge of Probate Court*

12:30 "MAY DAY" LUNCHEON

A NEW EXPERIENCE IN THE SCIENCE OF
HUMAN BEHAVIOR

*Mrs. Berniece Tajima, Topeka
Chief Social Worker, Kansas State
Reception and Diagnostic Center*

INSTALLATION OF OFFICERS

Take Time to Visit the Exhibits!

The Commercial and Scientific Exhibits will be located in the Municipal Auditorium Arena. Exhibits will open on Tuesday, May 5, at 8:30 a.m., and will be dismantled at noon on Wednesday, May 6.

SCIENTIFIC EXHIBITS

BATTERED CHILD SYNDROME—Donald N. Vivian, Col., USAF MC
 THE DIAGNOSIS OF CONGENITAL HIPS—Drs. Harry G. Kroll and Robert C. Lawson
 PHYSIOLOGICAL MECHANISM OF GASTRIC FREEZING, A Clinical and Animal Study With an Evaluation of 300 Treatments—Dr. Arthur P. Klotz
 ORIGIN OF HOUSE DUST ALLERGEN—Drs. Ralph Hale and Leo P. Cawley
 ASSOCIATION OF AMERICAN PHYSICIANS AND SURGEONS—Dr. Bruce G. Smith
 DISEASES OF THE EAR—Dr. James R. Tabor
 STORMONT MEDICAL LIBRARY—Dr. James M. Mott
 KANSAS ASSOCIATION OF MEDICAL RECORD LIBRARIANS
 POPULATION DYNAMICS IN THREE DIMENSIONS—Topeka-Shawnee County Health Dept.
 A LIFE IS IN YOUR HANDS—The Kansas Society of Medical Technologists
 PHYSICAL THERAPY AND THE ADOLESCENT—Northeast District Kansas Chapter of the American Physical Therapy Association
 ADOLESCENT NUTRITION—Topeka Dietetic Association
 TOPEKA PUBLIC SCHOOL OF PRACTICAL NURSING
 FUTURE NURSES CLUB—Hayden High School, Topeka
 KANSAS HEART ASSOCIATION
 TUBERCULIN TESTING TODAY—Kansas Tuberculosis and Health Assn.
 BLOOD—American Red Cross
 TROUBLED ADOLESCENTS—Boys Industrial School, Topeka
 THE SENIOR 4-H PROGRAM IS FOR ADOLESCENTS—Shawnee County 4-H
 THE CHURCH AND YOUTH—Topeka Council of Churches
 BOY SCOUTS OF AMERICA PHYSICAL FITNESS—Jayhawk Chapter
 WASHBURN UNIVERSITY—Topeka
 KAW VALLEY GIRL SCOUT COUNCIL
 SEAMAN HIGH SCHOOL—Topeka

COMMERCIAL EXHIBITS

Roche Laboratories, Nutley, New Jersey
 Ramn, Inc., Wichita, Kansas
 Lederle Laboratories, Pearl River, New York
 Loma Linda Foods, Riverside, California
 Better Business Methods, Inc., Topeka, Kansas
 Zenith Hearing Aid Dealers, Topeka, Kansas
 Professional Credit Control, Inc., Lincoln, Nebraska
 Burroughs Wellcome & Co., Inc., Tuckahoe, New York
 Mead Johnson Laboratories, Evansville, Indiana
 7-Up Bottling Co., Inc., Topeka, Kansas
 Pfizer Laboratories, New York, New York
 Ortho Pharmaceutical Corporation, Raritan, New Jersey
 Astra Pharmaceutical Products, Inc., Worcester, Massachusetts
 Mid-West Surgical Supply Co., Inc., Wichita, Kansas
 Organon, Inc., West Orange, New Jersey
 United Medical Equipment Co., Kansas City, Missouri
 Wallace Laboratories, Cranbury, New Jersey
 Merck Sharp & Dohme, West Point, Pennsylvania
 The Medical Protective Co., Fort Wayne, Indiana
 Abbott Laboratories, North Chicago, Illinois
 Duffens Optical Company, Topeka, Kansas
 CIBA Pharmaceutical, Summit, New Jersey
 Munns Medical Supply Co., Inc., Topeka, Kansas
 Washington National Insurance Company, Evanston, Illinois
 Eli Lilly and Company, Indianapolis, Indiana
 Sandoz Pharmaceuticals, Hanover, New Jersey
 Ayerst Laboratories, Dallas, Texas
 Parke, Davis & Company, Detroit, Michigan
 The Coca-Cola Company, Atlanta, Georgia
 G. D. Searle and Company, Chicago, Illinois
 Mr. Harold's, Inc., Wichita, Kansas
 Kansas Blue Shield, Topeka, Kansas
 E. R. Squibb & Sons, New York, New York
 Smith, Miller & Patch, Inc., New York, New York

Time, money, and effort have been spent in preparing these exhibits—show your appreciation by visiting all of them.

Parliamentary Procedure

A Guide to Govern Deliberations in the House of Delegates of the Kansas Medical Society

MAURICE M. TINTEROW, M.D., Wichita, Parliamentarian

MANY OF THE DELEGATES from the component societies of the Kansas Medical Society are unprepared for engaging in the deliberations of the House of Delegates. We are all not expert parliamentarians, nor have we specialized in parliamentary procedure. Usually we are not interested in participating in the business affairs of an organization. It is with this thought in mind that the following Rules of Order are written. I hope that it will be a help and will govern deliberations of the House of Delegates and its committees. This article will be divided into three sections: (1) Rules of order for the meetings of the House of Delegates; (2) A guide for conduct of Reference Committees, and the correct forms of introducing resolutions, and (3) Your parliamentary rights and how to exercise them.

RULES OF ORDER

I. Purpose

Section 1.01. These Rules of Order are set forth to govern the deliberations of the House of Delegates and its committees.

II. Meetings of the House of Delegates

Section 2.01. The House of Delegates shall meet as required in the By-Laws of this organization, provided, however, that there shall be at least a minimum of two meetings at each session separated by at least 24 hours.

III. Subsidiary Committees

Section 3.01. Credentials Committee

Section 3.011. The Credentials Committee shall examine the credentials of all who seek admission to the House of Delegates, and rule on the seating of all members and proposed substitution of others for absentees. All those whose credentials are found to be in order shall be registered and seated as official members of the House of Delegates. Any member of the Society registered for the Annual Meeting may be admitted to the visitors' section, within limits of space.

Section 3.012. An appeal from any ruling of

the Credentials Committee may be entered by the individual whose credentials are in question or by any voting member in his behalf. Such appeal must be entered immediately following the report of the Credentials Committee to the House that a quorum exists and a majority vote by the House of Delegates will decide the issue.

Section 3.013. The Credentials Committee shall designate one of its members to act as Sergeant-at-Arms to act under the direction of the President to insure that all members are properly seated and to carry out the will of the House in the preservation of order.

Section 3.014. The Credentials Committee shall report to the House when requested by the President, on the following:

- (a) Total number of members of the House eligible to vote at this session.
- (b) Number of such members registered and officially seated.
- (c) Announcement of quorum.
- (d) Announcement of Sergeant-at-Arms.

Section 3.02. Reference Committees.

Section 3.021. The following Reference Committees shall be constituted for each session of the House of Delegates for the purpose of considering those items which are referred to them:

- (a) Reference Committee Number 1 for those resolutions bearing even numbers.
- (b) Reference Committee Number 2 for those resolutions bearing odd numbers.

Section 3.022. Within six days after receipt of a list of items of business to be considered at the next session of the House of Delegates, the President shall recommend through the Executive Office that such additional Reference Committees shall be constituted as, in the judgment of the President, appear to be necessary for the most effective handling of the business to be introduced.

Section 3.023. The President shall appoint the personnel of each Reference Committee as will insure that such committees will be fully constituted at least ten days prior to the first meeting of the House of Delegates.

Section 3.024. No Reference Committee shall consist of less than five nor more than seven members, each of whom shall have been members in good standing of the Kansas Medical Society for at least five years, except that the President may designate technical or consultatory assistants in excess of that number. Such assistants need not be members of this Society and shall act solely in an advisory capacity and be without vote.

Section 3.025. The duties of the Reference Committees shall be:

(a) To hold open hearings on all items of business which have been referred to it, at such time and place as shall have been announced at the first meeting of the House of Delegates.

(b) To deliberate in closed session on each item of business which has been referred to it, and after full consideration to make a recommendation as to its final disposition in the House.

(c) To prepare a written report for the second meeting of the House of Delegates presenting its recommendations on each item of business which has been referred to it.

Section 3.026. In its hearings, deliberations and recommendations each Reference Committee shall be guided by and shall adhere to the provisions set forth in "Guide for Conduct of Reference Committees."

IV. Order of Business

Section 4.01. First meeting of the House of Delegates.

Section 4.011. At the first meeting of the House of Delegates, all items of business which have been published in the official publication of this Society shall be introduced by title, and referred without debate or action to an appropriate Reference Committee, except as otherwise stipulated in these Rules of Order.

Section 4.012. All other items of business which have not been previously published and distributed to the members of the House shall be read in full, unless in the opinion of the President, concurred in by the House, it is considered desirable to introduce it in an abbreviated form.

Section 4.013. Proposed amendments to any reports or any other items of business which have been introduced may be entered immediately following the introduction of the item to which it refers or under "New Business." Such proposal shall be in writing, and shall not be debated nor acted upon at the first meeting, but shall adhere to the item of business to which it pertains.

Section 4.014. The Order of Business at the First House of Delegates shall be: (unless other-

wise ordered by a two-thirds vote of the delegates present)

1. Registration of delegates, ex-officio members and visitors.
2. Call to order by the President.
3. Announcement of the number of delegates, ex-officio members present and registered, and the presence of an official quorum.
4. Nominations from the floor for each elective office and a ballot vote where three or more candidates have been nominated for one office.
5. Reading of the minutes of the last or any special meeting.
6. Report of Reference Committee on reports printed in the JOURNAL with details of recommendations and resolutions therein requiring action by the Society.
7. Supplemental reports from committees or officers.
8. Report of the Executive Secretary.
9. Report of the Treasurer.
10. Unfinished business.
11. New business and resolutions offered.
12. Address of the President (if desired).
13. Address of the President-Elect (if desired).
14. Announcements—to include time and place of Reference Committee meeting, names and districts of expiring councilors' terms and to include naming of the two candidates nominated for each contested elective office.
15. Adjournment to reconvene at the second meeting.

Section 4.02. Second meeting of the House of Delegates.

Section 4.021. At the second meeting of the House of Delegates, the House will receive the full report of each Reference Committee on all items of business which were referred to it at the first meeting of the House.

Section 4.022. Each item of business so reported upon shall be subject to full debate, amendment, and any action which the House desires to take upon it, except that any item which has previously been accepted for a first reading may not be amended to any degree that materially alters the original intent of the item.

Section 4.023. No item of business may be considered at the second meeting of the House unless it was introduced at the first meeting and referred to a Reference Committee except as provided for in the By-Laws.

Section 4.024. If a Reference Committee fails to submit a report at the second meeting of the House upon any item which was referred to it at the first meeting, such item may be placed before the House by the President, and must be so placed upon request of any member of the House.

Section 4.025. The order of business at the second meeting of the House of Delegates shall be:

1. Registration and seating of delegates, ex-officio members and visitors.
2. Call to order by the President.
3. Election of officers (by ballot): President-Elect, First Vice President, Second Vice President, Constitutional Secretary, Treasurer, Delegate-Elect and Alternate to the American Medical Association.
4. Report of secondary meeting of Reference Committees.
5. Unfinished business.
6. New business.
7. Election of Councilors for expired terms by caucus of delegates present from the respective districts.
8. Announcements of Councilors elected and meeting place of the Council.
9. Installation of the new President.
10. Adjournment.

V. Motions

Only members of the House of Delegates are privileged to make any motions, except that a duly appointed chairman of any Reference Committee or of any Standing or Special Committee of the Kansas Medical Society may make motions pertaining to any matter which has been referred to or considered by his committee, whether he be a member of the House or not, and further, except that any member of a Reference Committee, other than advisory members, may make motions incident to the introduction of and debate on minority reports.

Section 5.02. All resolutions shall be submitted in writing.

Section 5.03. The President may, at his discretion, direct that complicated motions or amendments be submitted in writing.

Section 5.04. A motion to take any tabled motion from the table is in order either during the same session at which it was tabled or during the next session, even if the sessions are held no oftener than annually. In this reference the term "session" shall be understood to include the total number of meetings which are held between the initial convening of the House of Delegates and its final adjournment.

VI. Debate

Section 6.01. Discussion and debate on any matter before the House shall be carried on according to standard parliamentary procedure as outlined in the official parliamentary authority of this Society.

Section 6.011. Any voting or non-voting member of the House of Delegates has the right to discussion of any matter before the House.

Section 6.012. Any duly appointed member of a Reference Committee shall be accorded the privilege of discussing any matter which was considered and is being reported by his committee. This same privilege of discussion and debate shall be extended to the chairman of any duly appointed Standing or Special Committee of the Kansas Medical Society on those items which have been under discussion by his committee.

Section 6.013. Any consultative advisor or technical assistant shall be accorded the privilege of discussing any matter before the House, if invited by the President, or if such request is made by any member, provided, however, that this privilege may be denied such individual by a motion duly entered and passed by a majority of the voting members of the House.

Section 6.02. The President shall be granted the floor without regard to the customary limitations of debate, insofar as this can be done without depriving any other member of his parliamentary rights, and further provided that the President shall be bound by the usual rules of parliamentary decorum, and he shall be subjected to any rules to limit debate which are in effect at that time.

VII. Voting

Section 7.01. Voting shall be carried on according to standard parliamentary procedure as outlined in the official parliamentary authority of this Society.

Section 7.011. The method of voting shall be at the option of the President, except when the method is stipulated in the By-Laws of this Society or the House adopts a motion to vote in a specific way. The President shall state the method of voting when the question is put to vote.

Section 7.012. If the President is in doubt as to the outcome of the vote, he shall call for a retake by some method which will indicate the exact number voting on each side. Likewise, and under the same circumstances, any voting member of the House may request that a retake vote be made.

Section 7.013. A vote offered by proxy or by mail shall not be considered valid except when so stipulated in the By-Laws.

Section 7.014. The Secretary may be instructed by the House to cast a single ballot on either side of the question, but a motion to "cast a unanimous ballot" shall not be in order.

Section 7.02. If any election to an office results in a tie vote, the winner shall be determined by drawing lots.

VIII. Appeals, Challenges and Claims of Illegality

Section 8.01. An appeal, challenge or claim of illegality may be entered only by voting members of the House, except that an appeal from a decision of the Credentials Committee may be entered by the individual whose credentials are in question.

Section 8.011. Appeals from a decision of the chair must be raised immediately after the decision is rendered and before other business has intervened.

Section 8.013. All other appeals, challenges or claims of illegality must be raised at the same session at which the action under question occurred.

IX. Unanimous Consent

Section 9.01. The House may, by unanimous consent, grant any motion, action, or request which is not in violation of any provision in the By-Laws of the Kansas Medical Society even if such action is adjudged to be out of order according to the official parliamentary authority of this Society, or these Rules of Order.

X. Amendment and Suspension

Section 10.01. These Rules of Order may be amended, or any provision thereof temporarily suspended by a two-thirds majority vote of the House of Delegates at any legal meeting of the House.

Section 10.02. No provision of the Rules of Order shall be effective and no amendment to nor suspension of the provisions thereof shall be permitted if such provision or action is in violation of the By-Laws of the Kansas Medical Society, or the laws of the State of Kansas.

XI. Parliamentary Authority

Section 11.01. The latest edition of *Robert's Rules of Order* shall govern all matters not covered by the Rules of Order or the By-Laws of this Society.

Section 11.02. Those situations not so covered shall be decided by the Parliamentarian of the House of Delegates, with the consent of the House of Delegates.

A GUIDE FOR CONDUCT OF REFERENCE COMMITTEES

Each item of business properly introduced into the House of Delegates must be considered by the House of Delegates for their determination. Proper procedure requires that all items be adequately studied and discussed. However, the agenda is increasing. Therefore, it becomes impractical to debate fully on

the floor of the House of Delegates each item submitted. In addition, only members of the House of Delegates have voice in the assembly. This may have an effect of depriving members of the Society (not members of the House of Delegates) an opportunity to be heard.

For these reasons, the Reference Committee system has been established and has been adopted. Considerable responsibility and authority is delegated by the House of Delegates to the Reference Committees. All matters introduced into the first meeting of the House of Delegates are referred by the President without debate to a Reference Committee for their consideration. All items which are related by factual content, policy, or procedure are given to one committee if this is at all possible. Upon the committee members rests the responsibility to thoroughly familiarize themselves with the items appearing on their agenda by seeking all available factual information, by seeking opinion of the membership and, if necessary, by seeking expert advice.

During the first meeting of the House of Delegates, the President refers to Reference Committees each item of business introduced during this meeting. No debate upon the merits is permitted at this time. Instead, all members of the Kansas Medical Society, including those sitting in the House of Delegates, are encouraged to direct their comments, facts, and arguments to the Reference Committee handling this particular item of business. The Reference Committee is the sounding-board of the Society and of the House of Delegates. The committee is composed of members who represent the various geographic areas, who are generally familiar with the business at hand, and who will be objective in their approach to the issues. The House of Delegates imposes upon them the duty and the responsibility to act in their stead and to hear all testimony, to develop all facets of the problem, and to render their considered opinion on all matters of business so referred. In the past, Reference Committees have functioned very well indeed. As a result, reports of the Reference Committees frequently have been adopted as the action of the House of Delegates.

Orientation Session

At the published time, following the first meeting of the House of Delegates, the orientation session of the Reference Committees will be held under the chairmanship of the Parliamentarian of the House of Delegates. This orientation meeting is conducted for the benefit of the Reference Committee members. The Parliamentarian will outline Reference Committee procedure, duties and conduct. The Executive Secretary will distribute a copy of all the pertinent files of the subject matter under discussion. A general question and answer period will follow.

Closed Session

Following the orientation meeting, the Reference Committees shall meet in closed session in prearranged hearing rooms. At this time the chairman shall review with his committee all items on the agenda to familiarize the committee with the agenda to determine what facets of the problem remain undeveloped; to determine effects of the anticipated action upon the Society. Only members of the committee shall be permitted to attend this closed session. However, the Parliamentarian shall be available to determine any procedural questions. Should other technical assistance be needed, the Executive Secretary will arrange such counsel.

Open Hearings

The Reference Committee must hear all members of the Society who wish to appear before the committee on any matter of business on the committee agenda. However, it remains the prerogative of the chairman of the committee to set time schedules of hearings. All members seeking an opportunity to be heard must abide by such posted schedule of hearing. Having been notified by such posted schedule, it becomes the obligation of the member to make himself available to testify before the committee at the proper time. However, subject to the discretion of the chairman, testimony can be heard out of order. Thus, the democratic system is preserved and a planned committee schedule maintained.

The committee may seek or hear testimony of nonmembers, if, in the discretion of the chairman, such information is pertinent and necessary for the committee members to reach an informed opinion concerning a question before it. However, certain limitations should be exercised by the chairman in this regard. Should exhaustive and detailed investigation be required to secure necessary facts, it may be presumed by the Reference Committee that more information should have been submitted with the resolution. In such case, the item may well be reported to the House of Delegates with a *Motion to Defer*.

During the open hearings of the Reference Committees, parliamentary rules should be adhered to only to the extent necessary to maintain order and insure a hearing for everyone who wishes to be heard. However, the chairman must maintain control over the conduct of the proceedings. The testimony and discussion should be germane to the facts at issue but considerable latitude may be tolerated at times. Members of the committee should be encouraged to participate in the discussion. They must remain at all times as objective as possible and pose questions in language to elicit witness opinion and/or additional pertinent facts. However, committee members must

not enter into debate with other committee members or Society members appearing before it. Hearings are for benefit of the Reference Committee and not for the purpose of influencing those who testify before it. While strict parliamentary procedure should be discouraged, it is incumbent upon the chairman to maintain decorum during proceedings and encourage full discussion of the business at hand.

Executive Session

After all witnesses have been heard, the Reference Committee will enter executive session. At this time, members of Reference Committees consider and weigh all the testimony of the open hearing. Finally, the Reference Committee, through its chairman, reports back to the House of Delegates findings on all questions referred to the Reference Committee for consideration with specific recommendation. When this report is read to the House of Delegates by the chairman of the Reference Committee, the chairman will, upon his own motion, move the adoption of the report. It will be presumed that the committee seconds the chairman's motion.

YOUR PARLIAMENTARY RIGHTS AND HOW TO EXERCISE THEM

The following is presented with the sincere hope that it will enable each member of the House of Delegates to fully understand the proceedings of a parliamentary body and thus feel more at home participating in its deliberations. The member who understands these mechanical processes is in a good position to influence legislation to his liking.

General Consideration

An informed delegate with a minimum working knowledge of parliamentary procedure has it within his power to introduce new items and to pass, amend, defeat, table, postpone, and recommit any item before the House if he knows what motions to make and when to make them and can muster enough support to provide the necessary majority when the vote is taken. Under certain circumstances he may bring about reconsideration or even revision of legislation which has already been legally adopted. Control of the House lies in three areas, the MOTION, the DEBATE, and the VOTE.

The Motions

A. The Main Motion—through which all business is introduced in the House.

1. Only one may be under consideration at any given time.

2. Any member may make the second.
3. Subject to motions to amend, table, postpone to a certain time or indefinitely, to refer to committee, and yields, to all except another main motion.

Form: "I move that. . . ."

B. To Amend—by which main motions are altered to better suit the desires of the House.

1. Any number may be proposed except that no more than two may be under consideration at any one time.
2. The second amendment may apply either to the first amendment or independently to the main motion.

3. Amendments may be proposed to add, strike out and insert, substitute or divide.

4. An amendment cannot be tabled, postponed or referred separately from the main motion to which it applies.

5. Long or complicated amendments should be proposed in writing.

Form: "I move that we amend the motion by. . . ."

C. To Table—by which consideration of a motion is delayed.

1. Never qualify a motion to table. It cannot be tabled "until some other event has occurred" or "until next meeting." Qualifying phrases strip this motion of its rank or precedence.

2. Takes precedence over all subsidiary motions.

3. Cannot be debated or amended but must be voted upon as soon as put.

4. If defeated it may be renewed only after additional discussion has changed the situation which existed when it was defeated.

5. If the motion is passed, the item to which it applies is automatically removed from further consideration together with all the motions which apply to the item tabled.

6. A tabled motion remains tabled until a motion to "take from the table" is passed by the House. Such motion is in order any time in the "same" session (only after business has intervened) or at any time in the "next" session (next year).

7. A motion may be delayed but kept alive indefinitely by voting to table year after year but will automatically die unless such motion to table is renewed at each subsequent session.

Form: "I move that this (motion, resolution, etc.) be tabled."

D. To Postpone—by which further consideration of an item is postponed to a specific time, or in-

definitely (depending upon the wording of the motion). All motions to postpone are debatable.

1. To postpone to a "certain specified time:"

a. To a later time at the same session. (It is then a special order of business.)

b. To the next regular session (automatically taken up under "unfinished business").

c. To a meeting to be held before the next regular meeting.

d. Cannot be "postponed to a definite time" beyond the next regular session.

e. But can be postponed an indefinite number of times and thus be kept alive.

Form: "I move that consideration of this motion be postponed until . . ."

2. To postpone indefinitely:

a. If passed the effect will be to kill the item for that session, and it stays dead unless reintroduced at a subsequent session.

b. Any item of business which is killed in one session (or dies automatically) may be reintroduced at a subsequent session because one House cannot irrevocably bind a subsequent House to any course of action.

c. A motion which is postponed indefinitely cannot be further considered at the same session unless the House votes to consider the "motion to postpone indefinitely."

d. A motion to postpone indefinitely automatically opens up the main motion to debate. The motion to postpone and the merits of the main motion can then be debated concurrently.

Form: "I move that consideration of the motion be postponed indefinitely . . ."

E. To Refer a Recommit—by which items are referred to a committee for further study and subsequent report before being considered further.

1. If no standing committee exists, motion should be clear as to:

a. Size and constitution of committee.

b. Who appoints the committee (President or House).

c. What authority the committee has.

d. When it shall report.

2. If a standing committee does exist, the House may still refer the item to another committee if by a two-thirds vote they remove this item from the jurisdiction of the standing committee.

3. The membership of such committees must be named before adjournment unless by unanimous consent the House grants the privilege of deferring such appointments to a subsequent time.

Form: "I move that this motion be referred to

the committee (or a new committee) of ———— to be appointed by the President (or by the House by nominations from the floor) for further study and report at the next meeting (or with authority to act in the interim).

F. To Reconsider—by which motions previously adopted may be reconsidered.

1. Must be moved by the one who voted on the prevailing side (if the vote was by ballot, his right to move reconsideration may be challenged in which case it will be decided by the House).

2. Any member may second the motion.

3. Any main motion which has been previously adopted or defeated may be reconsidered unless in the meantime the action has been carried out.

4. A motion to reconsider may be proposed only "on the same day" or the "very next day." (Thereafter the motion is "to rescind.") It can be proposed immediately after the results of the vote on the original main motion is announced or at a later time within the above limits.

5. It cannot apply to motions to adjourn, suspend the rules or to table.

6. No question can be twice reconsidered.

Form: "I move that we rescind the motion that . . ."

H. Withdrawing a Motion

1. A motion or its second may be withdrawn by its maker at any time before it is stated by the Chair.

2. It may also be withdrawn after being stated by the Chair up to the time a vote is taken, PROVIDED no one objects to its withdrawal.

3. In case there is an objection, the privilege of withdrawal is decided by a vote of the House.

Form: "I wish to withdraw the motion just made."

The Rules of Debate

1. Time limit for each speech is ten minutes, except that:

a. Any member may talk more than ten minutes if no one objects, unless the House has voted (two-thirds) to limit debate.

b. The House by two-thirds vote may overrule an objection and extend the time to any member.

2. Each member has the right to speak once on each issue unless the House has voted (two-thirds) to limit debate.

3. Each member is entitled to speak a second time on the same issue unless some other member actually rises to claim the floor in which case he

must yield to one who has spoken less times than he has.

i. A member may speak more than twice on any subject unless objection is raised.

5. One who makes a motion can vote against it but he cannot speak against it.

6. Discussion and debate are not in order at the first meeting of the House. Amendments and other motions affecting legislation introduced at that session will be in order at the second session.

7. The rules of debate may be altered by adoption (two-thirds vote) of any of the following appropriate motions:

a. "I move that each of the members be limited to (or granted) ——— minutes debate on the motion before the House."

b. "I move that the House limit the number who can speak on the motion before the House to ——— for and an equal number against."

c. "I move that debate be automatically closed at ——— o'clock and that each member be granted ——— minutes."

d. If it is desirable to cut off further debate and force an immediate vote on any motion make the following motion:

"I move the previous question." This has the effect of stopping all debate instantly until a vote is taken on the motion for "previous question." If this motion is adopted, an immediate vote must be taken on the motion under discussion. If lost, the debate may resume where it left off.

NOTE: Any of the above motions may be made at any time during debate provided it does not interrupt a speaker.

Only the motion "to table" takes precedence over them.

The Rules of Voting

1. If the question under vote is not clear you should request, "Will the Chair please restate the motion?"

2. The following are common acceptable methods of voting:

a. By voice—Inaccurate for close votes.

b. By hand—More accurate to count and should be used for close votes.

c. By rising—More accurate to count and should be used for close votes.

d. By secret ballot—Must be used wherever called for in By-Laws and should be used whenever disclosing one's vote would cause pain or embarrassment.

3. Any member who is uncertain of the accuracy of a voice vote should call out without rising, "I doubt the vote." This should be done immediately

after the Chair has announced the results (not before). The Chair will then take the vote again by hand or by rising.

4. In case of a tie, the motion is lost except on a vote to sustain the decision of the chair (on an Appeal). A tie vote sustains the decision.

5. The House, by majority vote, or silent consent, may direct that a vote be taken by secret ballot or by roll call. Such a motion may be entered by any member.

6. Anyone may change his vote up to the time the Chair announces the final result by rising and stating his desire to change his vote.

Miscellaneous Information

1. At the first meeting of the House, all business is introduced and referred without debate or action to an appropriate committee.

2. At the second meeting the Reference Committees present their reports and all items are subject to debate and final action. New business may be introduced only with the consent of two-thirds of the House by vote.

3. The House may vote to suspend the rules by a two-thirds vote, except that By-Laws cannot be suspended even by unanimous consent.

4. Any member may rise to a point of order by which he questions the legality of any procedure or challenges the ruling of the Chair. The Chair may rule on the point of order or submit it to vote (majority). A point of order must be raised at the time of the violation of procedure and is out of order after other business has intervened.

5. Any decision or ruling of the Chair involving opinion or judgment may be appealed by any member who rises to a point of order and states, "I appeal from the decision of the Chair." The House then votes to sustain or overrule the decision. Appeals cannot be made on decisions based on established facts or accepted rules.

6. Any motion, act or request may be granted by the House by unanimous consent if not in violation of the By-Laws. One single objection by a voting member destroys unanimous consent.

The following are the most commonly used mo-

tions listed in order of their rank. By "rank" is meant that when any one of the following motions is under consideration of the House, it is in order to propose any motion listed above it while those below are out of order.

The Privileged Motions:

1. Fix a time to which to adjourn
2. Adjourn
3. Recess
4. Raise a question of privilege
5. Call for orders of the day

The Subsidiary Motions:

1. Lay on the table
2. Previous question
3. Limit, or extend, debate
4. Postpone to a certain time
5. Commit or refer
6. Amend
7. Postpone indefinitely

The Principal Motions:

All main motions, resolutions, etc., which are proposed by a member of a committee.

Conclusions

The best place to influence legislation is at the hearings of the Reference Committees. These hearings are held to give each member an opportunity to express his opinion more informally.

Next: Become familiar with the material under consideration. Learn and apply the rules, principles and procedures of parliamentary practice above and if your proposal fails to pass, it will be because you were unable to convince enough people you are right.

There are many more motions and rules governing their usage and good parliamentary procedure. For further reading you are referred to:

Revised Edition
Robert's Rules of Order
by General Henry M. Robert
Scott, Foresman and Company
Chicago, Illinois



Councilor Reports

Activities in the Councilor Districts of Kansas

FIRST DISTRICT

The most important thing in District One has been the Northeast Kansas Medical Society. This was formed last year and includes four counties. Attendance at meetings has been good and interest is high.

There is an increasing need for some new doctors in this area of Kansas.

VIRGIL E. BROWN, M.D., *Councilor*

SECOND DISTRICT

District Two is comprised of the Wyandotte County Medical Society, and none other. The present society year has seen many accomplishments, and many excellent meetings. One of the high spots of the year was a meeting at the University of Kansas Medical Center at which time an explanation and enlightening lecture was given on the activities, both present and proposed, around the Center. Another highlight among our meetings was one at which Dr. Ralph J. Rettenmaier spoke to us about the legislation which now takes the office of Coroner out of the hands of politics. This, likewise, was an enlightening meeting.

Operation Hometown has been put into full swing in this county under the direction of the chairman, Dr. William J. Allen. Much assistance has been given to the various high school debating teams throughout this season by several of our members.

No difficult problems have been brought to the attention of the councilor.

J. WARREN MANLEY, M.D., *Councilor*

THIRD DISTRICT

There have been no major problems presented to the councilor during this past year.

There have been many interesting activities in the Third Councilor District, chief of these being a very successful Health-O-Rama at the Shawnee Mission West high school last fall. Representatives of schools of medicine, dentistry, veterinary medicine, and approximately 40 paramedical disciplines were assembled to give interested students an opportunity to receive authoritative information on courses in these fields. Such varied fields as Medical Art and Music Therapy were represented along with the more usual fields of nursing, medical technology, dietetics, etc.

I appreciate the opportunity to have been of service to the members of the Kansas Medical Society in the Third Councilor District.

DAN L. BERGER, M.D., *Councilor*

FOURTH DISTRICT

The past year has been a rather normal one with the usual exception or two which happens every year.

The Fourth District was honored last fall by a visit from the president of the Kansas Medical Society, Dr. H. St. Clair O'Donnell, at a meeting held in Pittsburg for the physicians and their wives.

The physicians of the Fourth District are concerned with the newly implemented Kerr-Mills bill. The majority have expressed themselves and they are unfavorable to the bill. Many have stated that they do not fully understand this measure. We hope this situation can be settled satisfactorily in the near future.

Your councilor urges the physicians to make their contribution to the Fund for the Distinguished Medical Teaching Program.

DICK B. MCKEE, M.D., *Councilor*

FIFTH DISTRICT

The year 1963-64 was eventful in District Five, primarily because the Riley-Geary County Blue Cross-Blue Shield Plan was worked out as a full coverage alternate to the Blue Cross-Blue Shield Plan III. Several meetings and a considerable amount of time and cooperation between the two county medical societies made this possible.

The problem of adequate physician replacement in the district has been of concern. Several of the societies have suggested that increased urbanization of Kansas creates a need for preceptorships in cities of up to 20,000 population, as the need for general practitioners in particular remains with us, and younger men are not being attracted to medium-sized cities. It was felt further action by the State Society cooperating with the University of Kansas School of Medicine might remedy this situation.

Hospital accreditation is being sought by several hospitals in the district. Your councilor has encouraged this in meetings with two of the component

societies and it is hoped accreditation in these county hospitals can be achieved in 1964. Several physicians stated that because of the advanced age of death in this district (in one hospital during 1963, 75 per cent of the deaths were in the 70 to 100 age group) they felt the 15 per cent autopsy rate for accreditation was wasteful of time because a significant number of posts would be necessary on very old people where the cause of death was clinically evident, even obvious.

It was the opinion of the councilor that District Five had a productive year generally, with much accomplished within the district.

ALEX SCOTT, M.D., *Councilor*

SIXTH DISTRICT

District Six finished the year with a total of 200 active members. In addition to these, there are seven Emeritus, eight Associate, nine Resident, and seven Fellowship, for a grand total of 231. We were saddened by the death of two members during the past year.

Our society has been very active in many fields during this year. We have had regular meetings, except during the summer. There has been much discussion relative to the routine business of the society and all of the 18 standing committees have done an excellent job for our society.

There are three main topics of discussion which I would like to report. The one that caused the most discussion was relative to Kerr-Mills and its administration and implementation. Our society voted to accept the OAA portion of the new law and to continue conducting the welfare clinics as we have done in the past. We totally rejected the MAA portion of the bill as it is now administered. This was left entirely to the preference of the individual doctor.

Much discussion occurred relative to community emergency care, working in cooperation with the hospital staffs and other emergency personnel. Tentative plans were made and in one instance tried as a "dry run." Much valuable information, which we feel will better enable us to serve the people of our community if the occasion arises, was obtained in this manner.

We had representatives of various types of radio communication services describe modes of call services to enable the doctors to remain in closer communication with hospitals, offices and other emergency areas. To date, no official action has been taken.

The society is active in community service. Working with the program sponsored by the State Board of Health, our members administered the Sabin polio vaccine in three different clinics. Approximately 80 per cent of the population received the vaccine at each of the first two clinics. Because of the adverse

national publicity, only about 70 per cent received the vaccine at the third clinic. However, with follow-up clinics the total nearly equaled the 80 per cent achieved in the first two clinics.

In cooperation with the Kansas Heart Association, a forum-type program was presented for the residents of Shawnee County. This was well attended and many fine comments were heard about the value of this type of program for those interested in heart disease.

One of the important programs presented by our Rural Health Committee was one on alcoholism which was given to the Agriculture Extension Service. Our panel of speakers also furnished speakers for several other community service projects, PTA meetings, school vocational advisory seminars, and similar programs.

We expressed our interest and support for education by voluntarily assessing ourselves, as part of our dues, a contribution to AMA-ERF. Also a substantial contribution was obtained from a dance sponsored by the Woman's Auxiliary. The proceeds were given to AMA-ERF.

Our Woman's Auxiliary also has been quite active in working with some of the standing committees. One of the most active has been the School Health Committee. One of their important contributions has been their work in collecting textbooks, journals, and drug samples for distribution overseas.

As part of our dues assessment, a contribution was given for support of the Science Fair. In addition to this, there have been many individual contributions.

One of the activities that consumed a great deal of time, and has been of great benefit to our society as well as the state, was the acquisition in July of the Stormont Medical Library by the Shawnee County Medical Society. This library was formerly housed in the State House library wing. It is now located in Stormont-Vail Hospital. This location makes the library available to the doctors, nurses and other personnel and is much more convenient than when it was located downtown.

The Blue Shield Relations Committee of our society has had several meetings. Discussion at the last two has been about a proposed variation of Schedule 3 for Shawnee County. Working under direction and permission of the House of Delegates an attempt is being made to establish a tailor-made contract for our immediate trade area. There also was an evaluation of the proposed tax deferred income plan. Additional information has been requested and our delegates will be instructed about the wishes of the Society for the annual meeting in May.

One non-scientific meeting was held in September. This was a joint meeting of the doctors, dentists, veterinarians, druggists, and detail men. The meeting

was a sports day consisting of golf and shooting followed by a banquet in the evening. This, also, was well attended and we feel it was a very worthwhile project for promoting better relationships between the component groups.

The scientific programs of the monthly meetings have been outstanding during the past year. The Program Committee has done an excellent job of choosing speakers who appeal to a good cross-section of the membership.

The most interesting, as well as educational, portion of the programs has been the "case of the month." Sincere appreciation and thanks go to our pathology and radiology departments for initiating these programs. Interesting and exceptional cases are chosen. The attending doctor gives a summary of pertinent clinical information, then the pathologic and interesting radiologic findings are discussed. A group of excellent slides are prepared by these departments and presented with the case. This portion of the program is looked forward to by all the members and there is a good discussion of the cases prior to the "last word" by the pathologist.

Many of our members have contributed to and have been active in KaMPAC and AMPAC.

The members of District Six, hosts for the annual meeting in Topeka in May, are working hard on the program and other phases of the meeting. We are looking forward to a good attendance to what we are sure will be an outstanding meeting.

FRANCIS T. COLLINS, M.D., *Councilor*

SEVENTH DISTRICT

The Seventh District has faced no unusual problems in this past year and, as before, the relationship between the component county groups and the individual physicians has been characterized by an exemplary friendliness.

There has been good attendance at the postgraduate courses held in Emporia.

We were honored to have Dr. and Mrs. H. St. Clair O'Donnell, Mr. and Mrs. James S. Imboden, Mrs. Pauline (Virgil E.) Brown, president of the Auxiliary, and Mrs. C. M. Lessenden, Jr., president-elect of the Auxiliary, as our guests at a combined meeting of the Flint Hills Medical Society and the Auxiliary on November 5, 1963, at the Ranch House Motel, following a social hour at the home of Dr. and Mrs. Richard P. Schellinger. It was a most successful evening.

Our Flint Hills District Society, composed of Morris, Osage, Chase, Greenwood, and Lyon counties, is now in its successful second year under the able leadership of Dr. Leo McKee of Cottonwood Falls.

Our society shows commendable interest in medical problems of statewide and nationwide importance and our delegates have been diligent in their attendance at the state meetings of the House of Delegates.

It is a pleasure to be councilor for the Seventh District.

JOHN L. MORGAN, M.D., *Councilor*

EIGHTH DISTRICT

The component medical societies of District Eight presented no special problems or requests to their councilor during the past year.

During the past year, society meetings in Cowley and Butler Counties have been well attended. Many good programs were presented. The circuit courses of the Medical Center are being held in Winfield and have attracted an excellent attendance.

A District Eight meeting was held in Arkansas City November 15, 1963, with Cowley County as the host. The meeting was well attended with representatives from all counties in the district. The Woman's Auxiliary was represented by Mrs. Virgil E. Brown, President, and Mrs. C. M. Lessenden, President-Elect. The Kansas Medical Society was represented by Dr. H. St. Clair O'Donnell, President, and Mr. Oliver Ebel. There was considerable discussion with regard to the welfare program and especially Kerr-Mills.

A special effort will be made in the Eighth Councilor District and the Fifth Congressional District to increase membership and support of KaMPAC.

It has been a pleasure to serve as councilor for District Eight during the past year and I wish to thank everyone for their help and cooperation.

BRUCE G. SMITH, M.D., *Councilor*

NINTH DISTRICT

Of the many problems facing the Kansas Medical Society during 1963-64, the one that probably stirred up the most excitement was the Kerr-Mills Bill. Many societies have expressed indignation and actual revolt against the way in which this measure has been planned and implemented in the State of Kansas. The Saline County Medical Society has voted unanimous non-participation in the Kerr-Mills portion of the bill, reasoning that the recipients have been reduced to Welfare status.

My own experience includes one elderly lady who was eligible for Kerr-Mills but who refused to mortgage her house and refused to fill out and sign the voluminous papers required. These things would have taken her one week to be acceptable and she needed immediate hospitalization. It is to be hoped

that this non-participation will be state-wide and that the State Board of Social Welfare can make a workable plan out of what is now useless.

L. S. NELSON, JR., M.D., *Councilor*

TENTH DISTRICT

The Tenth District has met and faced, but never conquered the problems of this year. To say that this district has been only somewhat disturbed by the activities of the State Legislature, is putting it mildly. This area, Reno County, in the past has always felt that the care of indigent patients should be a duty of the local people and that the county commissioners should administer welfare money.

Two years ago we were blocking Forand-type legislation. A year ago we were pushing for implementation of Kerr-Mills. Now that we have the monster, we find ourselves defending the project and being forced into implementation of a bill which we feel was not the intent of the original Kerr-Mills legislation. Indigent care only appears to grow—our district being no exception.

It also is disturbing to some of our doctors in this area who feel that the mandatory withholding of a portion of their payment from Blue Shield tends to threaten the entire Blue Shield program.

During the year the district entertained the state officers at Hutchinson. This was well attended.

During the past year our Woman's Auxiliary has continued to donate much attention to public relations, safety programs, and collecting of drugs for Project Concern.

It has been a real pleasure to be councilor for District Ten and at this time I wish to express my gratitude to those who have cooperated with me during the five and a half years as councilor.

May we see you all at the State Meeting in Topeka.

JOHN N. BLANK, M.D., *Councilor*

ELEVENTH DISTRICT

It has been my pleasure to have served as councilor for the Eleventh District for two consecutive terms, and it is with some regret that I am reaching the end of my eligible time. I would like to report the Eleventh District has seen a great deal of activity in community and public relations this year. Through our "Operation Hometown" Committee we have endeavored to lay the groundwork for the coming election year when the inevitable battle over King-Anderson (Medicare) Bill will arise. Our greatest strides have been in improving our media relations, especially with the local press.

The *Wichita Eagle and Beacon* newspaper asked

our society to co-sponsor a series of public forums on Medicine. The Sedgwick County Society and the *Eagle* set about, through several committees, to organize four forums on topics of interest to lay audiences. The topics were Cancer, Arthritis, Child Care, and Heart Disease. We certainly were overwhelmed by the response to these subjects and unfortunately we had to turn away almost 1,000 people one night. Besides being an excellent community service project, these forums allowed us to work closely with a news media and share some of the same problems. As a result, our whole media relations code is in the process of being revised. All in all, some 7,500 persons participated in these forums. The physicians on the panel reported they felt it was a very personal, rewarding experience. Plans are now being laid for similar forums next year.

Our society was very fortunate to be able to have Dr. Edward R. Annis, president of the American Medical Association, help us with our community-wide "Hometown" appeal. This dynamic physician made four speeches while he was in Wichita and reached a personal audience of 2,000. He granted a press conference and pointed out the fallacies of the King-Anderson legislation which made the front page of most of the county press, three TV channels, and eight radio stations. In terms of exposure, his message reached the eyes and ears of a million and a half persons. We can only hope the majority of them were looking and listening, which is hard not to do when Dr. Annis speaks. We received letters of thank you from the ten top civic clubs that participated in the civic club luncheon where he spoke to an audience of 1,100 at one time. The medical society and their wives were able to hear a totally different speech from Dr. Annis in the evening.

The surplus from the STOP Polio campaign that I reported was so successful last year was set up in a special scholarship fund to be used by students interested in the biological fields at the University of Wichita. The surplus amounted to \$25,000.00. The committee, made up of civic leaders, contributed this money to the school in honor of the community at large that generously contributed to support this campaign. They made special mention of the part the society played in sponsoring this campaign and its achieving more than our goals in immunization levels.

The most recent activity taken by our society was to jointly sponsor a course on the Immediate Care of the Sick and Injured. This course was given to persons who are first called to the scene of an injury or illness, such as ambulance drivers, police, fire rescue squads, and other emergency corps personnel. It presented basic instruction and discussion for proper handling of the injured and acutely ill. The session

was originally set up to accommodate 85 persons, but, because of overwhelming requests for this course, we extended our facilities to include almost 150 paramedical personnel. I have seen some of the critiques filled out by the course participants, and they all express the real need for more of these courses. Dr. Harold Low, our President, has announced that a similar course will be offered later in the fall along this line. It was our society's pleasure to cooperate with the State Society and the University of Kansas Medical Center in sponsoring this course.

I would like to thank the 352 members of the Medical Society of Sedgwick County for electing me their councilor and having given me the opportunity to serve as their representative for two successive terms. It has been a rewarding experience and one that I will not soon forget. I want to express my full appreciation for the cooperation and guide lines given me by the Board of Directors over the past year under the direction of Dr. H. C. Blaylock, past president, and Dr. Harold Low, current president of the Medical Society of Sedgwick County.

I would like to express my own personal appreciation and gratitude to our Executive Director, Mr. Dallas F. Whaley, who has served so efficiently during the last three years. Mr. Whaley has been a great asset to the medical society with his knowledge of medical society organizations, his outstanding executive ability and his talents in public relations. The ongoing programs of the Medical Society of Sedgwick County would not have been successful without his unceasing devotion to the cause of organized medicine and to the causes of freedom of medicine in which we all believe.

WM. J. REALS, M.D., *Councilor*

FIFTEENTH DISTRICT

District 15 has had a very active year with a continued influx of new doctors into the district and a general growth thereof. We have tried to overcome part of our lack of communication which is caused by the tremendous distance that separates the various components of the district and in part we feel that we have overcome some of this.

It seems that almost our entire efforts for the year have been directed towards the problems which have been imposed upon the medical profession by the method of implementation of the MAA or Kerr-Mills Bill. We have worked unceasingly in the district to have this particular implementation modified and I believe all of the component societies of the district have mailed a statement rejecting their willingness to abide by this particular ruling.

On October 28, 1963, a meeting of the combined

15th Councilor District, medical groups and auxiliary, was held in Liberal at the Liberal Country Club. The meeting was well attended and I think very valuable from the standpoint of renewing relationships and bringing everyone in the district up to date insofar as the activities of the state were concerned. On the distaff side, Mrs. Virgil E. Brown, President, Mrs. Lyle Glen, First Vice President, and Mrs. E. Burke Scagnelli, Fourth Vice President, attended the meeting. The councilor for District 15, Mrs. Richard Hill, was also present. The president of the Ford County Auxiliary, Mrs. Richard Speirs, was able to attend, as was the vice president of the Iroquois County Auxiliary, Mrs. Robert Daugherty, and the treasurer, Mrs. Jerry McNickle, from Ashland. All of the officers of the Seward County Auxiliary were there: Mrs. A. L. Hilbig, President; Mrs. N. D. Harris, Vice President; Mrs. M. C. Spencer, Secretary; and Mrs. W. M. Campion, Treasurer.

The men were represented by our distinguished president, Dr. H. St. Clair O'Donnell, and attending with him was his wife. The officers of the Ford, Iroquois and Seward County Medical Societies were also in attendance. The Seward County Medical Society proved to be excellent hosts and everything was well organized. Dr. O'Donnell explained the background of the Kerr-Mills conflict and what had gone on before in the previous meetings and what we were expected to do in the future. A very lively discussion followed and it was the feeling of the councilor that the opinions expressed by the group were that these people would continue to be cared for, but that we would not submit to the various regulations as issued by the department.

Dr. O'Donnell also recognized the work that Dr. Richard Hill had done in the past several years in setting up a standardized recognition for the small hospitals and the number of hospitals which have been approved by the committee which he chaired.

Our hopes for the coming year are for closer communication between the three component societies of the councilor district and more aggressive political activity by the doctors in the area.

EVAN R. WILLIAMS, M.D., *Councilor*

SIXTEENTH DISTRICT

This is my last will and testament, after seven years' experience as councilor, and 33 years of general practice.

I give my wholehearted physical and financial endorsement to the members who have taken any office or appointment and given the task their wholehearted endeavor. It is from this perspective that you see the immense sacrifice that a few must make to safeguard

the "art" of medicine, in order that the majority may calmly continue exploitation, without giving one particle of responsibility in return. They "pass the buck" because it interferes with their plans and then, in return, they give only bemoaning criticism.

No wonder that physicians are now constantly on the defensive, after being jolted off their previously well respected perch because they act like teenagers and refuse to give any time for constructive and promotive responsibility. Financial independence has been won, but the time-honored love and respect by the public has been lost.

Extravagant, superfluous, routine and non-essential, padded medical and hospital expenses must be scaled down to balance inflation and the rising costs of medical insurance. Admissions must be retarded for many sickness- and injury-prone psychotics, by promoting higher deductible policies, instead of the ever-increasing full coverage plans with their skyrocketing premiums, forcing the general public to demand some form of socialized medicine.

We always have a sad representation of state delegates and committeemen, who should feel conscience-bound to appear at all meetings where vital decisions of medical practice are promulgated. We need to return to the principles of Aesculapius, to heal the sick through the "art" of medicine, and not become "well-heeled" through making medicine a profession of competitive financial gain.

Our Northwest Kansas Medical Society has had its usual quota of meetings, but aging membership is depriving our people of adequate hours of medical care. We need many more younger physicians who can organize into groups, to cope with the ever-increasing problem of giving 24-hour service, as well as providing secretaries to negotiate through the voluminous records required by our present bureaucracy.

I will continue to support and recommend whatever is necessary to re-establish medicine to a respected "art." I also cherish the privilege of having met most of the loyal physicians who have accepted their responsibility, and have done their duty, even

to exceed their physical capacity. This we have recently witnessed in the passing of Dr. F. E. Wrightman, who through a sense of loyalty, accepted a second term as president of the Kansas Medical Society and gave his "all."

I have enjoyed and learned much from the experience, in spite of the many miles enroute.

EDWARD F. STEICHEN, M.D., *Councilor*

SEVENTEENTH DISTRICT

The councilor wishes to report for District 17 composed of twelve southwest Kansas counties.

Since the last report new doctors have located in Johnson, Satanta, Syracuse and Garden City. The hospital and clinic in Johnson has been reopened. A new hospital of 25-bed capacity is under construction in Syracuse. Tribune is planning a new convalescent home and an increase of hospital bed capacity.

At the present time, there are plans to provide public health services to over 2,000 migratory farm workers that will come into this district during the summer months. Preventive medical and dental services will be provided through family clinics staffed by local doctors. This will be the first effort to care for these Spanish-American migrants and their families.

In Garden City, the mental health clinic has been completely reorganized under a new director, Dr. Joseph DeLucia, and has been fully certified as a mental health facility. At the present time they are attempting to locate a full-time psychiatrist.

The doctors in this district have actively objected to the Kansas program under the Kerr-Mills Bill, as administered by the State Board of Social Welfare. We will continue our efforts to urge improvements to this program.

The councilor wishes to express thanks to all in this district for cooperation and help during the year.

JOHN O. AUSTIN, M.D., *Councilor*

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Committee Reports

Activities of the Committees of the Kansas Medical Society

ALLIED GROUPS

C. H. Benage, Pittsburg, Chairman, 409 Professional Building; AD 1-2900.

H. O. Bullock, Independence; J. W. Campbell, Lawrence; O. R. Clark, Topeka; W. M. Cole, Wellington; O. W. Davidson, Kansas City; F. J. Eckdall, Emporia; M. C. Eddy, Hays; E. R. Gelvin, Concordia; D. A. Heubert, Wichita; K. A. Powell, Leavenworth; J. B. Pretz, Kansas City; N. C. Smith, Arkansas City; M. O. Steffen, Great Bend; H. N. Tihen, Wichita; M. W. Wells, Winfield; W. T. West, Wichita.

Through the function of sub-committees, several exploratory efforts in achieving closer cooperation with allied groups have been in progress. A general meeting of the committee for the purpose of submitting a detailed report is expected to be held prior to the session of the House of Delegates.

For the present, I am privileged to report there was one spirited meeting of the Inter-Professional Advisory Council. This is a voluntary effort at cooperation by some eight professional organizations of this state. During the meeting, each organization is invited to discuss its legislative proposals and any problem affecting one or more of the other organizations present. During the course of a frank discussion, an attempt is made to devise a formula whereby the problem may be resolved or alleviated.

A National Conference on Nursing was attended by a sub-committee. The many facets of nursing and the relationship of this profession to Medicine were explored. The Committee on Allied Groups is now in a better position to meet with nurses at the Kansas level because local situations may now be explored in the light of the national picture.

A sub-committee attended the National Conference on Relationships of Medicine and Pharmacy. Here also a closer understanding was reached concerning the basis for differences of opinion at the local level. It is expected prior to the meeting of the House of Delegates to meet with a committee of pharmacists in the hope that some recommendations may be prepared for the House of Delegates. These, if they can be agreed upon, will be presented later in the form of a supplementary report.

C. H. BENAGE, M.D., *Chairman*

ANESTHESIOLOGY

R. T. Parmley, Wichita, Chairman, 929 N. Emporia; MU 2-1561.

H. J. Brown, Winfield; W. Enders, Kansas City; E. L. Frederickson, Kansas City; F. A. Garlock, Great Bend; W. P. Hibbett, McPherson; M. R. Knapp, Wichita; R. S. McKee, Leavenworth; W. O. Martin, Topeka; A. W. Mee, Wichita; E. V. Miller, Salina; M. E. Nune-maker, Hutchinson; W. F. Powers, Wichita; R. H. Robinson, Wichita; L. J. Ruzicka, Concordia; E. M. Sutton, Salina; E. T. Wulff, Atchison.

In continuation of the anesthesia mortality study the chairman, in collaboration with individual members of the committee, has studied and attempted to classify each of the reports as it has been received. The entire committee will meet in Topeka at the time of the annual meeting of the Kansas Medical Society to set standards for the continuation of this study.

R. T. PARMLEY, M.D., *Chairman*

AUXILIARY

V. E. Brown, Sabetha; J. G. Claypool, Howard; J. H. Gilbert, Seneca; L. G. Glenn, Protection; C. M. Lessenden, Topeka; E. G. Neighbor, Kansas City; M. J. Rucker, Sabetha; E. B. Scagnelli, Dodge City; L. E. Vin Zant, Wichita.

It is the purpose of the Auxiliary Committee to cooperate with the Woman's Auxiliary in any project the Auxiliary wishes to bring to the attention of the Medical Society. This committee in turn brings suggestions from the Medical Society to the membership of the Auxiliary.

Although no formal committee meetings were held this past year, the Executive Staff and committee members cooperated with the Auxiliary on a number of projects of mutual interest.

District meetings were again held this year in eleven councilor districts. The President, Dr. H. St. Clair O'Donnell, and the President-Elect, Dr. John C. Mitchell, divided the meetings equally, as has been the custom. The implementation of Kerr-Mills was the topic discussed. A vote of thanks to both the councilors of the Medical Society and those of the Auxiliary for the excellent work they did in arranging the meetings and handling all the necessary arrangements.

District meetings are again being contemplated for the fall of 1964, when these will be held from September through December.

The Auxiliary gave its support, and many individual Auxiliary members their time, to the first Kansas

Congress on Mental Illness and Health which was held in Topeka in October. Thanks particularly to those members of the Auxiliary who served as hostesses and group recorders at the Congress.

The Auxiliary continued its active support of KaMPAC in this its second year. Even greater Auxiliary interest and participation is expected in 1964.

The President, Dr. H. St. Clair O'Donnell, Mr. Imboden and the chairman attended the Auxiliary Fall Conference which was held in Sabetha this year. Dr. O'Donnell reported on the Fall Conference in one of his President's Pages, calling the membership's attention to the many worthwhile projects currently being undertaken by the Auxiliary membership.

At this time, individual members of the Auxiliary Committee, the Executive Staff and Auxiliary members are cooperating in the preparation of the 1964 Annual Meeting to be held in Topeka.

JAMES S. IMBODEN, *Executive Assistant*

BLUE SHIELD RELATIONS

H. R. Schmidt, Newton, Chairman, Bethel Clinic; AT 3-3600.

Councilor Dist. 1—K. L. Graham, Leavenworth, Chairman; M. L. Mollohan, Seneca; W. L. Anderson, Atchison. *Councilor Dist. 2*—P. E. Hiebert, Kansas City, Chairman; A. N. Lemoine, Jr., Kansas City; E. C. Sifers, Kansas City. *Councilor Dist. 3*—H. P. Jones, Lawrence, Chairman; R. E. Banks, Paola; J. F. Barr, Ottawa. *Councilor Dist. 4*—C. W. Erickson, Pittsburg, Chairman; J. G. Esch, Pittsburg; A. E. Bair, Independence. *Councilor Dist. 5*—E. A. Walsh, Onaga, Chairman; K. M. Boese, Manhattan; F. D. Taylor, Clay Center. *Councilor Dist. 6*—C. W. Bowen, Topeka, Chairman; F. T. Collins, Topeka; W. H. Zimmerman, Topeka. *Councilor Dist. 7*—K. L. Lohmeyer, Emporia, Chairman; T. P. Butcher, Emporia; C. C. Underwood, Emporia. *Councilor Dist. 8*—B. G. Smith, Arkansas City, Chairman; G. L. Campbell, Arkansas City; H. J. Brown, Winfield. *Councilor Dist. 9*—L. S. Nelson, Jr., Salina, Chairman; D. M. Wald, Salina; A. W. Butcher, Abilene. *Councilor Dist. 10*—H. R. Schmidt, Newton, Chairman; R. P. Stoffer, Halstead; R. W. Fernie, Hutchinson. *Councilor Dist. 11*—W. H. Fritzemeier, Wichita, Chairman; G. J. Mastio, Wichita; B. E. Stofer, Wichita. *Councilor Dist. 12*—S. Zweifel, Jr., Kingman, Chairman; M. D. Christensen, Kiowa; W. M. Cole, Wellington. *Councilor Dist. 13*—A. M. Cherner, Hays, Chairman; T. F. Taylor, Phillipsburg; J. E. Seitz, Ellsworth. *Councilor Dist. 14*—O. R. Cram, Jr., Larned, Chairman; F. A. Garlock, Great Bend; P. K. Wiens, Ness City. *Councilor Dist. 15*—E. R. Williams, Dodge City, Chairman; M. H. Waldorf, Jr., Greensburg; L. G. Glenn, Protection. *Councilor Dist. 16*—J. R. Neuenschwander, Hoxie, Chairman; F. L. Smith, Colby; C. C. Gunter, Quinter. *Councilor Dist. 17*—G. W. Fields, Scott City,

Chairman; H. M. Wiley, Garden City; G. Von Leonrod, Jr., Dighton.

This committee met on March 15, 1964, following the Symposium in Wichita to consider a Deferred Compensation Program which had previously been discussed in a series of District Meetings.

Deferred Compensation was initially considered by the Medical Economics Committee, and on December 8, 1963, the House of Delegates passed a resolution urging Blue Shield to continue the study and development of the plan so that further consideration could be given at the next Annual Meeting of the Society.

The Blue Shield Board reviewed the results of the many meetings and discussions across the state, and the advice of specialists in the legal and tax field, and acted on March 14 to include the following provisions in the Deferred Compensation Plan:

1. The funds would be handled in a Trust Agreement. A Trust Agreement means that the fund will be entirely separate from Blue Shield reserves.

2. "Participating Physicians" would be those who participate in any locally approved as well as all state-wide service benefit programs.

3. At least five per cent (5%) of Blue Shield earnings would be withheld for each Participating Physician.

Your committee approved the Deferred Compensation Plan as outlined and will sponsor a resolution for endorsement by the next House of Delegates.

Since many of the operating details of the Deferred Compensation Plan were not finalized prior to some of the early district discussions we have requested that Blue Shield prepare a booklet which can be sent to each physician and we urge every physician to give this subject his attention.

Another subject discussed by the committee was a new dental services rider. After discussion the committee voted to present the following resolution to the House of Delegates:

RESOLUTION

WHEREAS, a major goal of Kansas Blue Shield is continued growth of membership, and

WHEREAS, public interest is beginning to develop in prepaid dental care, as indicated by the development of prepayment programs in other states, and

WHEREAS, Kansas Blue Shield is in a position to develop an optional Dental Services Rider for employee groups with the cooperation of the Kansas State Dental Association, which may result in attracting new subscribers to Blue Shield or providing present subscribers with a program which will help retain interest in basic Blue Shield programs, and

WHEREAS, the Blue Shield Relations Committee has considered the favorable reaction of a majority of the

District Committees, and noted that various other experimental plans have been beneficial to the medical profession and the public in Kansas.

Therefore, be it resolved that the Kansas Blue Shield Board may develop optional pilot programs for group subscribers for prepayment of dental services with the permission of the Kansas Medical Society.

The attendance at District Meetings was exceptionally high this year which indicates considerable interest on the part of the physicians. Most of the districts were represented at the Symposium and we are looking forward to next year.

H. R. SCHMIDT, M.D., *Chairman*

CHILD WELFARE

R. N. Shears, Hutchinson, Chairman, 415 W. 2nd; MO 2-3364.

H. V. Bair, Parsons; M. J. Blood, Wichita; R. D. Boles, Dodge City; W. H. Crouch, Topeka; D. R. Davis, Emporia; R. L. Dreher, Salina; T. C. Hurst, Wichita; A. C. Irby, Fort Scott; F. Law, Ellinwood; J. H. McNickle, Ashland; P. T. Schloesser, Topeka; L. N. Speer, Kansas City; T. E. Young, Topeka.

Prior to the meeting of the committee held on January 26, 1964, one thousand questionnaires were sent to practicing Kansas physicians requesting information in regard to extent and frequency of intentionally injured children in the state. The result of this study of the "Battered Child" was presented by Patricia T. Schloesser, M.D., Director of the Division of Maternal and Child Health of the Kansas State Board of Health. The committee agreed that the findings as presented indicated further emphasis should be placed on this problem. The committee will contact the Attorney General's office to get a written opinion of the need for legislation in regard to mandatory reporting and what legal protection is needed for physicians. The committee requested Dr. Schloesser and Mr. Imboden to draft with this legal advice a proposal for Battered Child Syndrome legislation to be submitted for the consideration of the House of Delegates at the time of the 1964 annual meeting in Topeka.

A discussion was held by members of the committee on use of measles vaccine, both live attenuated and killed. Both types are actively being used in Kansas, and at present, information as to the best immunization program is not available. No recommendation will be made at this time.

The program for P.K.U. detection was evaluated with 40 patients in the state of Kansas known phenylketonurics. Because of high cost of caring for P.K.U. victims, continuous surveillance is encouraged.

Poison control centers were discussed and the committee doubted need for additional units. It was suggested that a letter to the membership be disseminated to bring latest information on location of these centers.

ROBERT N. SHEARS, M.D., *Chairman*

CONSERVATION OF EYESIGHT

E. T. Siler, Hays, Chairman, 107-B West 13th; MA 4-5573.

B. J. Ashley, Topeka; H. L. Bryant, Coffeyville; M. A. Carter, Wichita; E. M. Harms, Wichita; J. E. Hill, Arkansas City; D. O. Howard, Wichita; M. S. Lake, Salina; A. N. Lemoine, Jr., Kansas City; C. T. McCoy, Hutchinson; H. L. Patterson, Larned; R. C. Polson, Great Bend; R. R. Preston, Topeka; W. M. Scales, Hutchinson; E. W. Schwartz, Dodge City; D. P. Trimble, Emporia; H. E. Watts, Hays.

The committee chairman, after consultation with several members of the Committee on Conservation of Eyesight, attended an exploratory meeting of the proposed changes in Driver's License Standards. The meeting was attended by several members of the Legislature, the Motor Vehicle Department, the United States Public Health Service and several other committees of the Kansas Medical Society. As a result of this meeting, a resolution was passed by the State Legislature asking the Legislative Council to make a study of this problem, the results of which were to be presented to the 1965 Legislature.

A full committee meeting will be held at the University of Kansas Medical Center in April. Discussion will concern a possible legal action concerning dispensing opticians, changes by the Services for the Blind Division of the State Department of Social Welfare and the recommendations on the proposed changes in the Driver's License Examination and Regulations.

The chairman has discussed and made recommendations concerning the use of the Snellen E chart for school vision testing with several school officials.

EUGENE T. SILER, M.D., *Chairman*

CONSERVATION OF HEARING AND SPEECH

H. R. Draemel, Salina, Chairman, 617 United Bldg.; TA 3-4697.

C. W. Armstrong, Salina; J. A. Budetti, Wichita; R. L. Dunlap, Lawrence; E. S. Gendel, Topeka; C. L. Gray, Wichita; C. T. Hinshaw, Wichita; C. D. Kosar, Concordia; R. G. Montgomery-Short, Halstead; V. R. Moorman, Hutchinson; W. D. Pitman, Pratt; G. O.

Proud, Kansas City; C. H. Steele, Kansas City; M. F. Stock, Pittsburg.

One meeting of the committee was held this year. At that time the committee discussed three areas of committee endeavor. First, the Hearing Screening Program for school children in counties which previously had no means of determining the individual students who may have decreased hearing acuity. This project, which has been of intense interest to the Conservation of Hearing and Speech Committee for a number of years, came about through joint meetings with the Kansas State Department of Public Instruction, the Kansas Department of Health, and members of the staff of the Kansas University Medical Center. In the spring of 1963, a grant was made to the Division of Maternal and Child Health, State Department of Health, to conduct a hearing conservation project which was cooperatively designed by the aforementioned groups.

It is estimated that over 172,000 children in Kansas have never had their hearing tested. It is also estimated that from these children 5 per cent or 8,600 will be found to have a hearing impairment. The project hopes to bring hearing screening facilities to those children in order to identify hearing problems at an early stage so that they may not develop into handicapping conditions. A mobile hearing screening unit, staffed by two audiologists and a public health nurse, will be made available to those communities requesting the project. To date, out of 105 counties, 94 have requested this program. Requests have come from health officers, county superintendents, and school administrators.

It is anticipated that the program will start sometime in late April or early May with the testing of pre-school children in day care centers as well as children in state and private children's institutions.

In order for the project to operate with maximum benefit to the child, it will require the cooperative efforts of the physicians in the community and the local schools, for these children will be screened at school. Parents of those children failing the screening test will be notified and a recommendation made that the child be examined by the family physician. If there are special diagnostic problems, the family physician may wish to refer the child for additional workup for regional clinics staffed by an Otolaryngologist which will be made available. The child will then be referred back to the family physician. Family physicians will be invited to attend regional clinics if they are interested in consulting personally with the Otolologist.

As a result of the requests for this program, it is now estimated that approximately 172,000 children will be screened.

The committee secondly considered the hearing screening referral cards used for reporting hearing loss. This program has been developed in cooperation with the Department of Public Instruction and the Department of Health. It was decided that the chairman of this committee write to Otolologists in the state asking their continued cooperation in this screening program. In the future, screening cards will be returned to the offices of the Kansas Medical Society in care of the chairman of the Committee on Conservation of Hearing and Speech.

The last agenda item to be discussed by the committee dealt with hearing and speech impairments as they relate to the licensing of persons to operate a motor vehicle. The committee felt that neither hearing deficiency nor speech defects were cause to deny a person a driver's license.

H. R. DRAEMEL, M.D., *Chairman*

CONSTITUTION AND RULES

M. M. Tinterow, Wichita, Chairman, 2316 E. Central; FO 3-6186.

C. C. Conard, Dodge City; A. C. Eitzen, Hillsboro; W. Enders, Kansas City; J. K. Griffith, Neodesha; C. C. Hunnicutt, Sabetha; J. L. Morgan, Emporia; L. S. Nelson, Jr., Salina; W. C. Swisher, Wichita.

The Constitution and Rules Committee has not met during 1963-64 due to the fact that the Plans and Scopes Committee has not completed their task of recommending changes in the Constitution and By-Laws of the Kansas Medical Society. We are anxiously awaiting the report so that we may start on the task of rewriting the Constitution and By-Laws which we feel are in need of revision.

A resolution requesting a change in the Constitution and By-Laws in order to implement the organization of the House of Delegates of the Kansas Medical Society is hereby offered:

WHEREAS, In order to implement the organization of the House of Delegates of the Kansas Medical Society so that there may be a better regulation of the business to be conducted by the House of Delegates, and

WHEREAS, It is proposed that the Constitution and By-Laws of the Kansas Medical Society be changed to include the election or appointment of a Speaker of the House of Delegates and a Vice-Speaker of the House of Delegates, and

WHEREAS, The duties of the Speaker and Vice-Speaker of the House of Delegates shall be to conduct the annual meetings of the House of Delegates or any special sessions of the House of Delegates of the Kansas Medical Society, and

WHEREAS, The duties of a Speaker and Vice-Speaker are set forth in the rules of parliamentary practice, therefore

Be it resolved. That this House of Delegates approve the inclusion of a Speaker and Vice-Speaker of the House of Delegates as officers of the Society, and

Be it further resolved, That the term of office shall be the same as any elected official of the Kansas Medical Society, and shall be determined by the Committee on Constitution and Rules of this Society when the constitutional change is implemented.

M. M. TINTEROW, M.D., *Chairman*

CONTROL OF CANCER

W. G. Cauble, Wichita, Chairman, 1148 S. Hillside; MU 3-1681.

E. P. Carreau, Wichita; A. M. Cherner, Hays; J. C. Dysart, Sterling; L. S. Fent, Newton; J. W. Graves, Wichita; K. E. Krantz, Kansas City; D. Lawson, Topeka; G. J. Mastio, Wichita; G. E. Miller, Jr., Salina; N. C. Nash, Wichita; W. B. Nickell, Topeka; L. W. Reynolds, Hays; R. H. Riedel, Topeka; G. M. Tice, Kansas City; H. M. Wiley, Garden City; W. H. Zimmerman, Topeka.

This committee met with the Medical and Scientific Committee of the Kansas Division of the American Cancer Society on October 5, 1963, at Hutchinson. At the meeting it was recommended by the committee that the Department of Health cancer registry be reactivated and that \$3,500 annually was to be given by the Kansas Division of the Cancer Society toward the salary of a secretary.

It was also recommended that the Kansas Female Genital Tract Cancer Death Study be resubmitted to our House of Delegates at the next state meeting. There was considerable discussion of the smoking problem and its connection to cancer of the lung. The following resolution was adopted and is to be submitted to the House of Delegates at the next state meeting:

WHEREAS, the weight of scientific evidence strongly indicates that the use of tobacco in the form of cigarettes is one, if not the prime, cause of cancer of the lung;

Therefore, be it resolved, that the Committee on Control of Cancer of the Kansas Medical Society believes the smoking of cigarettes should be discouraged.

W. G. CAUBLE, M.D., *Chairman*

THE COUNCIL

The Council met three times during the past year and on each occasion explored a full agenda. Included in this report are the recommendations made by the Council which affect Society policy. They are submitted as the Council recommended except for the fact that they are here presented in resolution form.

RESOLUTION NO. 1

HOSPITAL COSTS

WHEREAS, there is wide public and professional misunderstanding and lack of understanding on the subject of hospital costs, and

WHEREAS, the Kansas Hospital Association has invited the medical profession to meet with a special committee of hospital administrators to explore this subject, and

WHEREAS, the Committee on Hospitals has held a preliminary meeting with the Hospital Association on this subject, therefore

Be It Resolved, that the House of Delegates authorize the Council to plan with the Kansas Hospital Association a conference on hospital costs to which shall be invited:

Kansas Blue Cross
Kansas Blue Shield
Kansas Health Facilities Information Service
Kansas Medical Society
Kansas Hospital Association
Kansas Council on Standards for Hospitals
Kansas Section of American College of Physicians
Kansas Section of American College of Surgeons
Kansas Section of American Academy of General Practice
Kansas Society of Radiologists
Kansas Society of Pathologists
Kansas State Board of Health

RESOLUTION NO. 2

BLUE SHIELD

WHEREAS, Blue Shield Executive Committee recommends that an increased representation of subscribers be added to the Board of Trustees of Blue Shield, and

WHEREAS, this is approved by the Council, therefore

Be It Resolved, that the House of Delegates endorse the recommendation of the Blue Shield Executive Committee to increase subscribers' representation on the Blue Shield Board of Trustees.

RESOLUTION NO. 3

WHEREAS, the boundary definitions of the component medical societies in this state and the Council districts do not always coincide causing a situation whereby a single component society may lie in more than one Council district, and

WHEREAS, some areas of Kansas are not included within the chartered area of any component society although the physicians residing within these unchartered areas belong to component societies, therefore

Be It Resolved, that the component societies of Kansas be advised of this fact through the distribution of a map and an explanation and that the component societies be invited to apply for charters which will as far as possible correct these situations.

RESOLUTION NO. 4

WHEREAS, it is rarely necessary for the Board of Healing Arts to revoke a license of a physician, and

WHEREAS, when this occurs such physician is no longer eligible for membership in the Kansas Medical Society or a component society in the state according to the definition of membership in the Constitution and By-Laws, and

WHEREAS, the Constitution and By-Laws do not specifically define a means for revoking the membership of such physicians when they become ineligible by reason of the loss of their license, therefore

Be It Resolved, that the Committee on Constitution and Rules be authorized to prepare the necessary language whereby a component society and the Kansas Medical Society shall immediately terminate the membership of a physician whose license is revoked and that dues for the current year—if they are paid—shall be retained by the respective societies, and

Be It Further Resolved, that action to accomplish this shall be considered an amendment to the Constitution and By-Laws with the adoption of this resolution.

RESOLUTION NO. 5

WHEREAS, an occasional councilor finds it impossible to attend meetings of the Council which results in that district losing the information the councilor might have reported had he been present, therefore

Be It Resolved, that the Committee on Constitution and Rules be authorized to prepare amendments to the Constitution and By-Laws which will direct the councilor when he is unable to attend the meeting to designate an alternate from his district to attend this meeting in his stead, and

Be It Further Resolved, that when a councilor fails to attend and fails to request an alternate to attend in his place, provisions shall be made whereby this councilor may be replaced.

H. ST. CLAIR O'DONNELL, M.D., *President*

ENDOWMENT

C. V. Black, Pratt, Chairman, 223 E. 4th; GR 2-4403.

E. Beebe, Olathe; H. C. Blaylock, Wichita; J. A. Blount, Larned; R. R. Cave, Manhattan; R. D. Dickson, Topeka; R. W. Diver, Coffeyville; E. T. Gertson, Atwood; W. A. Grosjean, Winfield; A. G. Isaac, Newton; R. G. Klein, Dodge City; M. D. McComas, Jr., Concordia; R. J. Maxfield, Garden City; J. W. Parker, Emporia; W. O. Wallace, Atchison; C. O. West, Kansas City; F. N. White, Russell.

The Endowment Committee held one meeting which was at the time of the Annual Meeting in Salina. Support of this committee has been very good, and the medical school of the University of Kansas received a check from the AMA-ERF for \$17,134.38.

CYRIL V. BLACK, M.D., *Chairman*

EXECUTIVE COMMITTEE

H. St. C. O'Donnell, President, Ellsworth, 308 Kingsley; GR 2-3121.

N. L. Francis, Past President, Wichita; J. C. Mitchell, President-Elect, Salina; G. E. Burket, Jr., First Vice-President, Kingman; J. A. McClure, Second Vice-President, Topeka; Leland Speer, Secretary, Kansas City; J. L. Lattimore, Treasurer, Topeka.

The Executive Committee has held a number of meetings during the year. The minutes of all Executive Committee meetings except the last held on February 29, 1964, have been examined and approved by the Council. Therefore, there is one item I wish to report for informational purposes.

Through investment of reserve funds, the Society obtains interest in the amount of approximately \$800 a year. It was recommended that the interest from investments be deposited in a savings account which has now been established and will be continued in the future.

Society income is obtained through membership dues. Almost all income for the year is received by March. At this time, the General Fund of the Society is large. A portion of this money is not used until the latter months of the year, but in the checking account the money lies idle without drawing interest. Therefore, the Executive Committee approved a suggestion by the Treasurer that a portion of this money be invested in 90-day or six-months bank notes where the money will draw interest. Consequently, the Treasurer has invested \$40,000 with the Merchants National Bank of Topeka where interest on this money will be obtained.

H. ST. CLAIR O'DONNELL, M.D., *President*

FEE SCHEDULE

L. S. Nelson, Jr., Salina, Chairman, Surgery, 135 E. Claflin; TA 7-9631.

J. N. Blank, Hutchinson, General Practice; H. J. Brown, Winfield, Anesthesiology; J. G. Claypool, Howard, Internal Medicine; R. B. Coffey, Salina, Orthopedics; R. F. Conard, Emporia, Radiology; G. W. Fields, Scott City, General Practice; W. H. Fritzemeier, Wichita, Dermatology; K. L. Graham, Leavenworth, General Practice; J. E. Hill, Arkansas City, Ophthalmology; T. C. Hurst, Wichita, Pediatrics; N. M. Jenkins, Salina, Internal Medicine; G. B. Joyce, Topeka, Orthopedics; J. G. Kendrick, Wichita, Obstetrics and Gynecology; W. R. Lentz, Topeka, General Practice; W. P. McKnight, Wichita, EENT; D. L. Marchbanks, Salina, General Practice; G. R. Maser, Mission, General Practice; G. R. Peters, Kansas City, Surgery; W. J. Reals, Wichita, Pathology; J. E. Roderick, Salina, Urology; N. V. Treger, Topeka, Internal Medicine; S. L.

Vander Velde, Emporia, Surgery; R. K. Wallace, Manhattan, Radiology.

Because the Kansas Relative Value Scale is being used increasingly as a vehicle upon which to construct fee schedules and because it appears this document will receive even wider usage in the future, your committee is studying the point relationships in an attempt to improve their accuracy. This requires some detailed effort and has not been completed in time for publication in the JOURNAL.

It is expected that specific recommendations for revisions within the Relative Value Scale may be presented to the House of Delegates in a supplementary report.

L. S. NELSON, JR., M.D., *Chairman*

GERONTOLOGY

D. V. Preheim, Newton, Chairman, Bethel Clinic; AT 3-3600.

W. R. Beine, Coffeyville; G. F. Davis, Kanopolis; T. Dechairo, Westmoreland; H. A. Flanders, Hays; J. T. Hamilton, Wichita; J. A. Howell, Wellington; A. M. Isaac, Wichita; J. J. Marchbanks, Oakley; R. McCoy, Coldwater; R. F. Morton, Arkansas City; T. V. Oltman, Riley; D. L. Rose, Kansas City; H. L. Songer, Lincoln; C. E. Stevenson, Neodesha; G. A. Surface, Ellis.

The Committee on Gerontology held one meeting during the year and discussed among other items the following:

1. Rules and Regulations Regarding the Operation of Nursing Homes. The committee is of the opinion these are inflexible and are directed so specifically toward the inspection of material factors that people have been neglected. The committee believes rules should be revised to show an interest in the people who operate nursing homes and those who live in nursing homes. It appears there might be benefit derived from employing an inspector whose sole duty it might be to visit nursing homes and to compliment operators for what they have achieved.

2. The Two-Year Mental Health Study. It is recommended mental health clinics be established throughout Kansas, but of interest to this committee is the fact that very few elderly people are referred to such clinics. The question explored by the committee is whether such facilities might be of assistance to the aged. The committee wondered if a psychiatrist might prepare a paper for publication on what assistance psychiatric or psychological evaluation might afford an elderly patient.

3. Scientific Papers on Gerontology. The committee believes it has a responsibility toward the phy-

sicians of Kansas to publish periodically articles especially designed toward care of the aged. It appears necessary to distinguish between the geriatrically ill and the aged and the mentally ill and the aged. The committee considered subjects for future issues of the JOURNAL and recommended, among others, papers on Fear, Self-Esteem, the Relationships of the Aged With Other Persons, the Community Relationships With Homes for the Aged, Legal Problems Relating to Nursing Homes, and so forth. It is hoped the committee next year may prepare a series of articles on these and perhaps other topics.

4. The committee approved the following resolution:

WHEREAS, the American Medical Association is co-operating with the American Nursing Home Association in a plan for accreditation, and

WHEREAS, the Kansas Nursing Home Association has requested the Kansas Medical Society to assist in a voluntary accreditation program for the nursing homes of this state, and

WHEREAS, this accreditation program will be designed specifically for nursing homes but will be modeled after the program for hospital accreditation, therefore

Be It Resolved, that the Kansas Medical Society approve a voluntary accreditation program for the nursing homes of Kansas, and

Be It Further Resolved, that the component medical societies in this state be advised of this program toward the end that physicians may assist homes that are attempting to improve their professional services through accreditation.

D. V. PREHEIM, M.D., *Chairman*

HISTORY

R. R. Melton, Marion, Chairman, 114 S. Lincoln; 94.

J. W. Butin, Manhattan; H. C. Clark, Wichita; A. W. Corbett, Emporia; J. J. Hovorka, Emporia; I. A. Koenekke, Halstead; H. P. Palmer, Scott City; R. Shrepfer, Kansas City; R. A. Schwegler, Lawrence; C. D. Shrader, Salina; G. S. Voorhees, Leavenworth.

The Committee on History met at Emporia, July 7, 1963, and once again found poor attendance but considerable enthusiasm was exhibited by those present.

(1) It was suggested that items of interest be submitted by various members to the committee in care of the central office for the History File in order that the experiences be preserved. These items may be personal or items of interest about other physicians.

(2) The Kansas Medical Society History Award was won by William M. Brewer. "Mac" wrote his essay dealing with the experiences of Dr. and Mrs. Middlekauf, early-day residents of Hays. This winning paper, "The Prairie Doctor" was presented in the August issue of the JOURNAL OF THE KANSAS

MEDICAL SOCIETY. This essay was second place winner of the Guffey Awards for History of Medicine.

(3) The committee desires to continue the awards for papers dealing with the History of Kansas Medicine submitted by Juniors or Seniors of the University of Kansas School of Medicine. The amounts to be as follows: First prize, \$100; Second prize, \$50; Third prize, \$25; and an Honorable Mention of \$10 for each paper submitted on the subject dealing with Kansas physicians or members of the University School of Medicine Faculty.

(4) The committee also expressed a desire to have the central office notify the Awards Committee of the School of Medicine to set the time the papers were to be submitted early enough to enable the Kansas Medical Society Award to be included in the annual Awards Recognition at the Medical School, and if possible to have the winner of our award present at the annual meeting of the Society.

R. R. MELTON, M.D., *Chairman*

HOSPITALS

R. H. Hill, Meade, Chairman, 234 E. Carthage; TR 3-2113.

L. G. Allen, Jr., Kansas City; G. B. Athy, Columbus; M. D. Christensen, Kiowa; E. R. Cram, St. Francis; M. C. Eddy, Hays; F. R. Frink, Lawrence; E. R. Gelvin, Concordia; W. E. Grove, Newton; G. F. Gsell, Wichita; D. A. Kendall, Great Bend; J. Magalif, Shawnee Mission; F. C. Shepard, Clay Center; E. B. Struxness, Hutchinson; R. M. Thomas, Marysville; R. J. Unrein, Hoisington; R. E. White, Garnett.

A meeting of the Committee on Hospitals was held on November 17, 1963, at the Jayhawk Hotel at Topeka. The purpose of this meeting was to discuss whether a meeting should be held with representatives of the Kansas Hospital Association and a possible agenda for the meeting. The desire for such a meeting had been expressed by the Hospital Association. It was decided that such a meeting should be held and a sub-committee representing the Kansas Medical Society, in accord with wishes of the Executive Council, was appointed.

Accordingly on February 13, 1964, the sub-committee from the Committee on Hospitals met with a like committee from the Kansas Hospital Association at the Baker Hotel in Hutchinson. Also present were Mr. Oliver Ebel, Mr. Frank Gentry, and Mr. Procter Redd. Mr. Redd gave a short summary of the presentation prepared by Blue Cross to be given before civic clubs and organizations explaining the rising costs in hospitalization. Following this a lengthy discussion was held concerning the many phases of hospital expense and possible solutions to these problems. Also

discussed was the problem of release of information from medical records. It was decided to refer the problem to a smaller committee representing the Kansas Medical Society, the Kansas Hospital Association, Medical Record Librarians and their legal counsel. The purpose of the committee would be to formulate a code for the release of information from medical records acceptable to the Kansas Medical Society and the Kansas Hospital Association.

While no definite decisions or recommendations were reached at this meeting, it was felt that it represented definite progress in understanding and cooperation between the two organizations. It was also agreed that future meetings of the combined committee should be held with definite subjects to be discussed decided on beforehand.

R. H. HILL, M.D., *Chairman*

INDUSTRIAL MEDICINE

J. F. Lance, Jr., Wichita, Chairman, 3244 E. Douglas; MU 2-5541.

W. L. Anderson, Atchison; J. A. Budetti, Wichita; G. L. Campbell, Arkansas City; A. S. J. Clarke, Prairie Village; R. A. Crawford, Hutchinson; F. B. Emery, Concordia; C. L. Francisco, Kansas City; W. L. Good, Mission; O. L. Hanson, Topeka; F. L. Loveland, Topeka; W. A. McClanahan, Wichita; S. C. McCrae, Salina; P. C. Nohe, Kansas City; L. M. Pearce, Shawnee Mission; M. C. Pearson, Concordia; W. F. Powers, Wichita; R. K. Purves, Wichita; H. L. Regier, Kansas City; L. M. Rhodes, Wichita; E. C. Sifers, Kansas City; J. L. Salomon, Wichita; J. F. Thurlow, Hays; R. W. Urie, Parsons; C. L. White, Great Bend.

Approximately one year ago the committee, working with the director of Workmen's Compensation, Mr. Fred Rausch, developed a new fee schedule under Workmen's Compensation based on the Relative Value Schedule at \$4.50 for each point as assigned to the various medical services described in the Kansas Relative Value Schedule.

At the time of our last report, members of the committee had met in an open meeting with the director of the Workmen's Compensation, representatives of industry, insurance company representatives, and representatives of Associated Industries, Inc. At that time the new fee schedule was discussed. No changes in the fee schedule as adopted by the director of Workmen's Compensation were made.

The 1963 legislative session resulted in certain amendments to the Kansas Workmen's Compensation Act, increasing the maximum medical benefits to \$6,000 and deleting the time limit for furnishing medical and hospital expenses. Provisions were also made for persons or institutions furnishing medical or related services to injured workmen under the

Kansas Workmen's Compensation Act to be bound by the fee schedule for such services as previously adopted.

There was also a House resolution passed by the 1963 legislative session calling for a legislative research council study in 1964-65 of medical, legal, and other fees covered under the Kansas Workmen's Compensation Law. To date, the committee has not been called upon to discuss fee schedules with the legislative research council. In the meantime, the Kansas Department of Insurance approved the Workmen's Compensation fee schedule as adopted by the director.

At the request of the director, the members of the committee were asked to express their opinions in interpreting physical deformity in relation to the Second Injury Fund. At this date, we are not certain how the director will rule on this.

There is a possibility that the Committee on Industrial Medicine may wish to make recommendations to the 1965 legislative session, but nothing of a concrete nature has been decided upon at this time.

J. F. LANCE, M.D., *Chairman*

MATERNAL WELFARE

R. M. Carr, Junction City, Chairman, 520 N. Jefferson; CE 8-4151.

Henry Aldis, Fort Scott; A. H. Baum, Dodge City; D. L. Berger, Shawnee Mission; E. C. Brandsted, McPherson; G. W. Fields, Scott City; H. M. Floersch, Kansas City; E. S. Gendel, Topeka; D. E. Gray, Topeka; R. G. Heasty, Manhattan; W. M. Kane, Jr., Hays; D. S. Klassen, Newton; K. E. Krantz, Kansas City; J. G. Lee, Jr., Kansas City; E. A. Martin, Parsons; O. L. Martin, Salina; C. P. McCoy, Wichita; J. W. Neumann, Garden City; N. H. Overholser, El Dorado; O. S. Petterson, Wichita; R. E. Pfuetze, Topeka; E. S. Rich, Newton; W. R. Roy, Topeka; J. C. Schroll, Hutchinson; C. D. Shrader, Salina; M. D. Snowbarger, Emporia; R. Sohlberg, Jr., McPherson; E. F. Steichen, Lenora; W. C. Swisher, Wichita; C. D. Voorhees, Leavenworth; W. T. West, Wichita; L. E. Woodard, Wichita.

This committee has been charged with the responsibility of studying the causes of maternal deaths, and the factors which could contribute to their prevention. An evaluation of each maternal death and the events leading up to it are carried out by various members of the Maternal Welfare Committee, on a regional basis. The studies are then de-identified and summarized for review by the committee, to determine their avoidability. The results of the committee deliberations and a more concise report are then submitted to the JOURNAL OF THE KANSAS MEDICAL

SOCIETY for publication. These published maternal death studies serve as an educational device in maternity care. In addition, the committee concerns itself with all matters pertaining to maternal health, including prenatal care, uses of certain drugs, etc.

During the past year, a suggested guide on obstetric practice was published—the fruition of a three-year project of the Maternal Welfare Committee. This has been distributed to general practitioners and obstetricians in Kansas, as well as to hospital administrators, and maternity units. The committee believes this manual will serve as a guideline to better obstetric care, based on the experiences with, and the history of, maternal deaths in Kansas in the past ten years.

Since the last annual report the committee held two meetings to review 16 maternal deaths which had been summarized. This represents fewer summaries than have been reviewed in the past, and reflects two things: One, almost all of the outstanding reports of previous years dating back to 1956, have been brought up-to-date, except for one or two outstanding. In previous years, there has always been a large backlog of cases which were over two years old. Two, there has been an increased maternal death rate in Kansas which has produced a whole "new load" of reviews to be done. Processing these new cases takes time, and physician interviews have to be arranged. The work of the committee is now tremendously increased by these new cases.

YEAR	Maternal Deaths		Rate Per 10,000 Live Births		
	COM-				
	KANSAS DEATHS	MITTEE DEATHS ¹	U.S. DEATHS	KANSAS RATE	U.S. RATE
1950	27	37	2,960	6.1	8.3
1960	9	12	1,360	1.8	3.2
1961	13	18	1,573	2.6	3.7
1962	12	20	1,410*	2.5	3.4*
1963	17*	24	(not available)	3.8*	(not available)

Live Births		
YEAR	KANSAS BIRTHS	U. S. BIRTHS
1950	43,911	3,554,149
1960	50,782	4,257,850
1961	49,988	4,268,326
1962	48,725	4,167,000*
1963	44,685*	4,081,000*

* Provisional

¹ The separate column represents deaths recorded by the Maternal Welfare Committee, and differs from the Vital Statistics figure because of the international coding system. The underlying cause of death takes predominance over any contributory cause in the international coding. For the Maternal Welfare Committee, however, if pregnancy is a contributory cause, it is studied by the committee as a maternal death. The 24 cases represents a large increase in incidence and rate for Kansas.

A report was presented to the committee from the Kansas University Medical Center, concerning the increase in early detection of uterine cancer in women. It was reported to the committee that much of this is due to the educational program about Papanicolaou cytological examination, sponsored by the Kansas University Medical Center, in cooperation with the Medical Society and the State Department of Health. Dr. Krantz further reported to the group that a study of the major causes of maternal deaths is being analyzed and will be available in the near future. Relating to this, the Division of Maternal and Child Health is compiling a study based on causes of death by size of community and population distribution.

During the year, the committee also reinforced its interest in support of legislation to revise the laws in Kansas on sterilization and abortion, which presently interfere with the ethical judgment of the physician and the welfare of the patient. The committee, therefore, recommends that legislation for revision of the abortion law, and the sterilization law in Kansas, be supported by the state medical society. Such a resolution is being prepared for the House of Delegates. The Obstetrical Society met on the same day as the Maternal Welfare Committee, and following the Maternal Welfare Committee meeting, offered its support to this recommendation. This will also be published.

The committee members have exhibited the same interest in the proceedings of this committee as they have in the past and are to be commended for their excellent attendance. Of the 32 members on the committee, approximately 27-28 have met each time.

R. M. CARR, M.D., *Chairman*

MEDICAL ASSISTANTS

G. H. Keene, Wichita, Chairman, 5025 E. Kellogg; MU 2-1534.

T. P. Butcher, Emporia; W. M. Campion, Liberal; W. M. Cole, Wellington; M. C. Eddy, Hays; K. L. Graham, Leavenworth; F. X. Lenski, Jr., Iola; J. J. Marchbanks, Oakley; R. C. Polson, Great Bend.

The Kansas Medical Assistants Society has made great advancement in the last three years and this year with a candidate for National President we should feel quite honored.

An Executive Council meeting was held in Salina on January 19, 1964. Three members of the committee were present. The Education Committee has four excellent programs arranged for 1964: Hays, July 25-26; Kansas City, August 8-9; Dodge City, August 22-23; and Wichita, September 12-13. Please encourage your assistants to attend one of these. Also, at the time of the January 19 Executive Committee

meeting, those present voted to urge KMAS members to participate in KaMPAC.

The medical assistants in Southwest Kansas are organizing a new group. Encourage your medical assistants to join KMAS, and if already a member, to continue as such.

GEORGE H. KEENE, M.D., *Chairman*

MEDICAL ECONOMICS

L. W. Reynolds, Hays, Chairman, 111 W. 10th; MA 4-2518.

E. G. Anderson, Wichita; G. S. Bascom, Manhattan; J. N. Blank, Hutchinson; H. C. Blaylock, Wichita; K. L. Graham, Leavenworth; H. T. Gray, Wichita; J. K. Griffith, Neodesha; G. E. Kassebaum, El Dorado; G. R. Learned, Lawrence; J. G. Lee, Jr., Kansas City; J. A. McClure, Topeka; R. F. Moore, Caney; L. S. Nelson, Jr., Salina; C. A. Nystrom, Cawker City; R. C. Stanley, Paola; B. E. Stofer, Wichita.

The Committee on Medical Economics has been quite active this year, having had three full committee meetings. Our fields of investigation have included a review of possible retirement funds and a comprehensive study of our present approved insurance programs together with a study of the feasible methods of improving these programs.

The regulations of the Internal Revenue Service regarding a Jenkins-Keogh type of retirement fund makes this type of program desirable for some physicians, but very expensive for those who have several long term employees. We would suggest that each member check the advantages and disadvantages of such a program for his situation and make his own decision. Since the AMA has set up a plan which is quite flexible, the committee believes that a state program for Kansas is not necessary or desirable now.

The committee has carefully considered the Blue Shield advanced plan of retaining a portion of each participating physician's payment for later distribution. This retention would be nontaxable until retirement and also the investment income from this fund would not be taxable until withdrawn. We believe this plan has all of the advantages, but none of the disadvantages of a Jenkins-Keogh type program.

WHEREAS, the Committee on Medical Economics approves the Blue Shield plan of retaining a portion of each participating physician's payment to be used as a mutual type of investment fund, and that this fund be arranged that the fund and investment income be not taxable until distribution on retirement or incapacity,

Be it resolved that if Blue Shield finds it necessary to require a percentage retention of each participating physician's payment, the committee believes that a minimal 5 per cent retention be required. We strongly be-

lieve that a retirement program of this type is urgently desired.

The main work of the committee has consisted of a thorough review of our presently approved association types of insurance coverage. The services of two insurance brokers, Dean Kirk of Topeka, and Ray Tyler of Wichita, were volunteered.

The Executive Committee of the Kansas Medical Society met on February 29, 1964, and recommended that the Committee on Medical Economics attempt to arrange the Medical Society insurance programs through one brokerage firm, if possible. The Executive Committee also requested the Medical Economics Committee to review and make recommendations to the House of Delegates on the American Academy of General Practice retirement program.

The committee will meet once more on Sunday, April 12, 1964, in Junction City to take action on these recommendations from the Executive Committee. A supplemental report will be made at the time of the annual meeting in Topeka in May.

L. W. REYNOLDS, M.D., *Chairman*

MEDICAL SCHOOLS

J. G. Claypool, Howard, Chairman, 118 S. Wabash; 379.

R. G. Ball, Manhattan; W. C. Bartlett, Wichita; M. L. Belot, Jr., Lawrence; J. H. Coffman, Oberlin; E. W. Crow, Wichita; M. I. Dunn, Kansas City; V. M. Eddy, Hays; D. L. Evans, Manhattan; J. B. Fisher, Wichita; D. B. Foster, Topeka; L. F. Glaser, Hutchinson; A. C. Hatcher, Wellington; D. G. Holcomb, Liberal; J. H. Holt, Wichita; B. M. Hopkins, Scott City; H. P. Jones, Lawrence; G. D. Marshall, Colby; L. E. Leigh, Overland Park; D. Lukens, Hutchinson; J. L. Morgan, Emporia; H. P. Palmer, Scott City; N. V. Treger, Topeka; I. J. Waxse, Oswego; R. W. Weber, Salina; T. H. White, Manhattan.

The meeting of this committee annually held at the Kansas University School of Medicine with the Dean and with the heads of the departments is held after the publication date at which these reports are required. If this meeting produces recommendations or a report of interest to the House of Delegates, it will be presented at the time the House of Delegates is in session.

J. G. CLAYPOOL, M.D., *Chairman*

MENTAL HEALTH

L. W. Hatton, Salina, Chairman, 406 United Bldg.; TA 7-6256.

A. J. Adams, Wichita; H. V. Bair, Parsons; A. P. Bay, Topeka; I. C. Case, Topeka; O. R. Cram, Jr., Larned; D. C. Greaves, Kansas City; J. A. Grimshaw,

Topeka; R. Haines, Topeka; F. H. Harris, Wichita; F. C. Newsom, Wichita; W. F. Roth, Jr., Kansas City; H. L. Schloesser, Topeka; W. C. Schwartz, Manhattan; H. G. Whittington, Lawrence; D. G. Zubowicz, Osawatomie.

This committee has been extremely active this year as a result of four resolutions passed by the 1963 House of Delegates at the time of the annual meeting in Salina. This report will consist mainly of the committee follow-up on these resolutions.

Resolution No. 15 dealt with medical aspects of drivers' licensure, and the Committee on Mental Health was one of four Society committees named to work in this area. The committee is at present working with several state agencies and the three other Medical Society committees involved to develop a comprehensive drivers' licensure program for possible presentation to the 1965 legislative session subject to the approval of the House of Delegates later in 1964.

Resolution No. 22 requested the Committee on Mental Health to offer its assistance to the Judicial Council on all subjects within the Probate Code that relate to mental illness. The committee appointed a special subcommittee to work with the Judicial Council. A letter from the president, Dr. H. St. Clair O'Donnell, has been written to the Judicial Council offering the assistance of this particular subcommittee.

Resolution No. 42 authorized the Kansas Medical Society to participate in a comprehensive planning program being conducted by the Board of Social Welfare, Division of Institutional Management, authorizing the president of the Kansas Medical Society to appoint physicians to serve on a Medical Review Committee which will in turn report to the Council. Members of the Committee on Mental Health and other members of the Kansas Medical Society have been appointed and are working with the Division of Institutional Management on this study.

Resolution No. 43 authorized the Committee on Mental Health, acting in the name of the Kansas Medical Society, to sponsor a first Kansas Congress on Mental Illness and Health. The committee, working through a steering committee, composed of representatives of the Kansas Association for Mental Health and the Kansas Psychiatric Society, developed and held a Congress on Mental Illness and Health on October 24, 1963. This Congress was sponsored by the Kansas Medical Society in cooperation with the Kansas Academy of General Practice, the Division of Institutional Management, the Kansas State Board of Social Welfare, the Kansas Psychiatric Society and the Kansas Association for Mental Health. Approximately 500 persons attended the one-day congress.

The Kansas Medical Society is deeply indebted to the Woman's Auxiliary and the four cooperating sponsors for the whole-hearted participation and support of this program. Special thanks should go to the Division of Institutional Management and particularly Dr. Robert Haines and Dr. H. G. Whittington and their staff. Doctor Whittington, as over-all program coordinator, committed his entire staff to the planning, implementation and follow-up of the Congress. Much of the credit for the success of the Congress should go to these people.

A special vote of thanks should go also to Dr. Austin Adams, who chaired the special steering committee, which developed the original format of the Congress. A sincere thanks should go also to Dr. Herbert Klemmer, topical committee chairman, who was responsible for the organization of all topical committee meetings held during the Congress. In addition to these persons, many other Auxiliary members, members of the medical profession and lay people contributed much to the success of the Congress.

The cost of the Congress was just over \$5,000 of which \$2,000 was contributed by the American Medical Association's Division on Mental Health. Other money for the Congress came from sponsoring agencies and registration fees. A summary of the Congress findings has been mailed to all Kansas physicians and is being mailed to Congress participants and other interested professional and lay groups. It is hoped that many of the areas discussed at the time of the Congress will be considered by the Division of Institutional Management's comprehensive mental health planning program. The following resolution on physician education comes from Dr. Roy Menninger's topical committee, Continuing the Education of the Physician.

PHYSICIAN EDUCATION

WHEREAS, emotional states are recognized as a major component of most illnesses—social and physical—moral and spiritual, and

WHEREAS, the Congress of the U.S.A. and the legislative bodies of the State of Kansas have appropriated funds and instituted procedures for the study and care of emotionally ill people, and

WHEREAS, the AMA and its constituent bodies have proposed to consider the study of emotional health as a prime target, and

WHEREAS, the members of the Kansas Psychiatric Society have proposed liaison with the members of the Kansas Medical Society, therefore

Be It Resolved that the House of Delegates advocate the organization of a standing committee to include representatives from the Committee on Relationships Between Public Health and Mental Health Personnel, the Committee on The Role of the Physician in Primary and Secondary Prevention of Mental Illness,

social work organizations and the KNA to facilitate exchange of information regarding emotional aspects of illness and health and to study and to develop more adequate preventive and treatment techniques.

The committee at a meeting on November 24, 1963, recommended that the House of Delegates consider suggesting a special legislative committee to be appointed to make a study of all phases of driver licensure. With the passage of a House concurrent resolution calling for a Legislative Research Council study, during the 1964 budget session, it is probably not necessary that the House of Delegates make such a recommendation at this time.

In conclusion, the membership should know that the steering committee, organized for the purpose of planning and holding a Congress on Mental Illness and Health, voted to disband, turning over the proceedings of the Congress to the Committee on Mental Health and the Division of Institutional Management's Mental Health Planning Committee to follow-up on the recommendations of the Congress.

L. W. HATTON, M.D., *Chairman*

NECROLOGY

O. R. Clark, Topeka, Chairman, 212 Medical Arts Bldg.—East; CE 3-4969.

D. E. Gray, Topeka; R. Greer, Topeka; D. Lawson, Topeka; J. A. Segerson, Topeka.

The Committee on Necrology submits the following list of members of the Kansas Medical Society whose deaths have been reported since the last meeting of the House of Delegates.

<i>Name and address</i>	<i>Age</i>	<i>1963</i>
Paul C. Carson, <i>Wichita</i>	75	March 25
W. F. Coon, <i>Caney</i>	87	March 30
Harold E. Neptune, <i>Salina</i>	67	March 29
Donald R. Anderson, <i>Salina</i>	56	April 23
Tracy R. Conklin, Jr., <i>Abilene</i>	64	April 20
John W. Kelly, <i>Louisburg</i>	94	March 1
Ralph J. Metcalf, <i>El Dorado</i>	59	April 10
James T. Naramore, <i>Larned</i>	70	May 12
Floyd H. Rush, <i>Pittsburg</i>	69	May 4
Charles A. Boyd, <i>Salina</i>	82	June 8
Milton J. Dungar, <i>Winfield</i>	75	July 6
John W. Neptune, <i>Los Angeles, Calif.</i>	94	June 21
Edwin H. Terrill, <i>Wichita</i>	70	June 13
Walter W. Miller, <i>Osborne</i>	93	July 30
Hugh R. St. John, <i>Concordia</i>	85	July 11
Emmerich Schulte, <i>Kansas City</i>	63	July 26
Michael W. Scimeca, <i>Caney</i>	46	July 12
C. Alexander Hellwig, <i>Halstead</i>	74	Sept. 15
Oscar Sharp, <i>Pittsburg</i>	80	Sept. 15
George M. Wooden, <i>Argonia</i>	92	Aug. 23
R. Dean Applegate, <i>Roeland Park</i>	34	Oct. 7
Laslo K. Chont, <i>Winfield</i>	63	Sept. 21

John W. DeMand, <i>Lincolnville</i>	77	Nov. 16
John L. Kleinheksel, <i>Wichita</i>	67	Nov. 30
George I. Thacher, <i>Watterville</i>	86	Nov. 20
Frederick E. Wrightman, <i>Sabetha</i>	71	Dec. 5
John N. Sherman, <i>Chanute</i>	79	Dec. 25
		1964
Squire S. Beverly, <i>Grand Rapids, Mich.</i>	74	Jan. 1
James S. Stewart, <i>Topeka</i>	83	Jan. 1
Albert C. Hatcher, <i>Wellington</i>	46	Jan. 29
James A. Knoop, <i>Olathe</i>	80	Feb. 8
Dale C. McCarty, <i>Medicine Lodge</i>	57	Jan. 22
Milton B. Miller, <i>Topeka</i>	76	Jan. 29
James G. Hughbanks, <i>Independence</i>	67	March 10

ORVILLE R. CLARK, M.D., *Chairman*

NOMINATING COMMITTEE

T. P. Butcher, Emporia, Chairman, 517 Merchant; DI 2-0722.

O. W. Davidson, Kansas City; M. C. Eddy, Hays; L. S. Nelson, Sr., Salina.

The Nominating Committee met in Topeka on Sunday, February 2, 1964, and submits the following names as candidates for the elective offices of the Kansas Medical Society:

President-Elect

George E. Burkett, Jr., M.D., Kingman. Born in 1912. Graduated from Kansas University School of Medicine in 1937. Has held various offices and was chairman of Society committees.

First Vice President

James A. McClure, M.D., Topeka. Born in 1918. Graduated from Kansas University School of Medicine in 1944. Has served as councilor and chairman of Society committees.

Second Vice President

Abraham M. Cherner, M.D., Hays. Born in 1910. Graduated from University of Chicago School of Medicine in 1936. Is currently councilor and has served on Society committees.

George F. Gsell, M.D., Wichita. Born in 1907. Graduated from Rush Medical College in 1933. Has served as councilor and AMA Delegate.

Dick B. McKee, M.D., Pittsburg. Born in 1896. Graduated from Kansas University School of Medicine in 1928. Is currently serving as councilor and has been on Society committees.

Edward J. Ryan, M.D., Emporia. Born in 1912. Graduated from Kansas University School of Medicine in 1936. Has served as councilor and president of Kansas Blue Shield.

icine in 1936. Has served as councilor and president of Kansas Blue Shield.

Emerson D. Yoder, M.D., Denton. Born in 1914. Graduated from Kansas University School of Medicine in 1949. Is currently serving as councilor and has served as committee chairman.

Secretary

Leland Speer, M.D., Kansas City. Born in 1912. Graduated from Kansas University School of Medicine in 1936. Is currently serving as Secretary.

Treasurer

John L. Lattimore, M.D., Topeka. Born in 1894. Graduated from Fort Worth School of Medicine in 1918. Is currently serving as Treasurer.

AMA Delegate

Lucien R. Pyle, M.D., Topeka. Born in 1901. Graduated from Rush Medical College in 1928. Has been president of the Kansas Medical Society. Is currently serving as AMA Delegate.

Alternate AMA Delegate

J. Warren Manley, M.D., Kansas City. Born in 1907. Graduated from Kansas University School of Medicine in 1940. Is currently councilor. Has served as committee chairman.

Robert Sohlberg, Jr., M.D., McPherson. Born in 1905. Graduated from Northwestern University School of Medicine in 1934. Has served as committee chairman.

Evan R. Williams, M.D., Dodge City. Born in 1925. Graduated from Northwestern University School of Medicine in 1952. Is currently councilor and has served on Society committees.

T. B. BUTCHER, M.D., *Chairman*

PATHOLOGY

R. J. Rettenmaier, Kansas City, Chairman, Providence Hospital; MA 1-5335 (Sta. 72).

L. P. Cawley, Wichita; R. J. Eilers, Kansas City; A. A. Fink, Topeka; T. Hiratzka, Wichita; J. E. Johnson, Kansas City; J. D. MacCarthy, Lawrence; R. J. Taylor, Wichita; C. J. Weber, Salina.

During 1963, the Committee on Pathology has been engaged in complying with Resolution No. 20, adopted by the House of Delegates of the Kansas Medical Society in 1963. This resolution requests the Committee on Pathology to devote activities toward implementation of the new state Coroner's

law which becomes effective in January, 1965. To this end the committee has held several meetings. At its last meeting on March 8, 1964, the committee met jointly with individuals engaged in law enforcement and with representatives from the Kansas University Medical Center. The committee is in the process of formulating recommendations to the various county medical societies and the district judges as to the appointment of the district coroner. The committee is also in the process of organizing a meeting of all newly appointed district coroners in the early part of 1965, hopefully, under the auspices of the postgraduate education division of the University of Kansas Medical Center and in conjunction with the Kansas Bureau of Investigation and other organizations of law enforcement officials. Standardized report forms for use by district and deputy coroners are also being studied.

RESOLUTION NO. 1

CORONERS

WHEREAS, the county medical societies within each of the 38 Judicial Districts of this state, prior to January 1, 1965, shall submit to the District Judges the names of two or more persons licensed to practice Medicine and Surgery, therefore

Be It Resolved, that all component societies in this state be supplied information defining the judicial districts and the names of the District Judges of Kansas, and

Be It Further Resolved, that where more than one county medical society exists within a judicial district, they coordinate their planning in this project, and

Be It Further Resolved, that by November 15, 1964, the names selected be submitted in person to the District Judges whose term of office shall begin the following January, and

Be It Further Resolved, that the names of the nominations shall be submitted to the Executive Office of the Kansas Medical Society for file to be presented to the Committee on Pathology.

The committee has also been engaged in activities relating to blood banking. Recognizing that blood banking as a medical service is being challenged by the Federal Trade Commission, the committee has spent considerable time on this subject. The most important assault on blood banking is represented by the Federal Trade Commission's complaint against the Community Blood Bank of Kansas City Area Incorporated and the numerous individual respondents. In an attempt to offer moral assistance and to help defray the cost of legal representation in the Federal Trade Commission hearing, the Committee on Pathology has submitted a resolution to the House of Delegates requesting an assessment against the members of the Kansas Medical Society.

RESOLUTION NO. 2

WHEREAS, the Federal Trade Commission has issued charges of restraint of trade against the Community Blood Bank of the Kansas City Area Incorporated, and

WHEREAS, the House of Delegates of the Kansas Medical Society recognizes blood banking as a medical service, and

WHEREAS, the Community Blood Bank of the Kansas City area provides medical services to 16 hospitals in 12 Kansas counties, and

WHEREAS, a number of Kansas physicians, who donated their time and effort to the non-profit Community Blood Bank of the Kansas City Area Incorporated, have been named as respondents in this action by the Federal Trade Commission, and

WHEREAS, these physicians, in defense of themselves during 15 weeks of hearings in the summer of 1963, required legal representation costing in excess of \$50,000, and further legal action will be necessary to protect the nation's system of volunteer blood donation and to maintain blood banking as a medical service, and

WHEREAS, the Johnson County Medical Society has assessed each of its members \$30 to defer legal expenses of the physician respondents and there are plans for solicitation from the American Medical Association and other local medical societies,

Therefore Be It Resolved, that the House of Delegates of the Kansas Medical Society recognizes a moral obligation to assist members of the medical profession and

Be It Further Resolved, that the House of Delegates of the Kansas Medical Society authorizes an assessment of all members for \$5.00 to assist in the payment of legal fees and costs incurred in this litigation and,

Be It Further Resolved, that the dispersal of such funds be determined by the Council of the Kansas Medical Society.

These two matters cannot be followed to fruition by the present committee; committees of subsequent years will need to devote attention to these matters.

RALPH J. RETTENMAIER, M.D., *Chairman*

PLANS AND SCOPES

W. J. Reals, Wichita, Chairman, St. Joseph's Hospital; MU 5-1111.

H. L. Bogan, Baxter Springs; K. L. Graham, Leavenworth; C. C. Gunter, Quinter; J. A. McClure, Topeka; J. L. McGovern, Wellington; C. W. Miller, Wichita; J. C. Mitchell, Salina; J. L. Morgan, Emporia; R. P. Norris, Wichita; R. H. O'Donnell, Ellsworth; G. R. Peters, Kansas City; D. C. Reed, Wichita; M. E. Schulz, Russell; R. N. Shears, Hutchinson; E. F. Steichen, Lenora.

Duties assigned to this committee have been under consideration by five sub-committees. At least a portion of the sub-committees are prepared to submit specific recommendations which will be introduced

in resolution form when the House of Delegates is in session.

W. J. REALS, M.D., *Chairman*

POSTGRADUATE STUDY

G. E. Burket, Jr., Kingman, Chairman, 349 N. Main; KE 2-3171.

W. H. Algie, Kansas City; C. C. Conard, Dodge City; M. H. Delp, Kansas City; D. B. Foster, Topeka; J. K. Fulton, Wichita; T. W. Graham, Leavenworth; G. W. Hammel, El Dorado; J. J. Hovorka, Emporia; G. C. Hutchison, Hays; D. Lawson, Topeka; L. H. Leger, Kansas City; A. N. Lemoine, Jr., Kansas City; E. L. Mills, Wichita; F. A. Moorhead, Neodesha; R. W. Myers, Newton; J. L. Perkins, Hutchinson; J. D. Rising, Kansas City; C. R. Rombold, Wichita; E. J. Ryan, Emporia; H. G. Whittington, Lawrence.

Postgraduate education continues to be emphasized in Kansas as indicated by the increasing number of programs and the large number of physicians attending. Although there are many other programs, the University of Kansas Medical Center continues to lead the way. The courses offered in Kansas City and on the Circuits constitute a complete curriculum of Postgraduate Education for which Kansas has become well known.

The Postgraduate Committee meets with the Medical School Committee and the Dean's Advisory Committee in April of each year. The meeting this year will occur on April 19, after this report has been made.

GEORGE E. BURKET, JR., M.D., *Chairman*

PUBLIC HEALTH

D. B. McKee, Pittsburg, Chairman, 312 National Bank Bldg.; AD 1-6220.

J. N. Blank, Hutchinson; M. K. Borklund, Independence; J. F. Coyle, Coffeyville; J. L. Morgan, Emporia; G. P. Neighbor, Kansas City; L. E. Woodard, Wichita.

At the time this report is required no specific item has been referred to this committee during the past year. Therefore, there is no report required of this committee.

D. B. McKEE, M.D., *Chairman*

PUBLIC RELATIONS

M. C. Eddy, Hays, Chairman, 105 W. 13th; MA 4-2551.

S. A. Anderson, Clay Center; C. H. Benage, Pitts-

burg; F. T. Collins, Topeka; C. C. Conard, Dodge City; F. E. Dillenbeck, El Dorado; J. W. Manley, Kansas City; L. S. Nelson, Sr., Salina; H. F. O'Donnell, Wichita; R. T. Parmley, Wichita; L. W. Patzkowsky, Kiowa; E. W. J. Pearce, Shawnee Mission; J. G. Phipps, Wichita; C. Pokorny, Halstead; A. Scott, Junction City; D. W. Selzer, Topeka; D. J. Smith, Overland Park; R. E. Speirs, Dodge City; J. R. Twinnem, Olathe.

Your Committee on Public Relations expected to hold a state-wide Public Relations Conference in connection with the County Officers' Conference, but due to conflicts which made the selection of a date impossible and because county medical societies as well as the Kansas Medical Society were preoccupied with problems relating to Welfare, they both finally determined with some reluctance that the Public Relations Conference be postponed until the early fall. Your chairman is still of the opinion that these conferences are worthwhile. He believes the Society should continue to exert its influence toward improving not only the services of the medical profession to the public but that every practical effort should be made toward achieving a better public understanding of the medical profession. Therefore, it is hoped that the committee may next year be successful in its planning and in its conduct of the state-wide Public Relations Conference.

M. C. EDDY, M.D., *Chairman*

RELATIONS WITH THE BAR ASSOCIATION

J. A. Segerson, Topeka, Chairman, 3617 W. 6th; CE 4-3411.

J. O. Baeke, Overland Park; J. J. Basham, Fort Scott; E. S. Brinton, Wichita; G. E. Burket, Jr., Kingman; T. R. Hamilton, Kansas City; J. B. Jarrott, Hutchinson; C. S. Joss, Topeka; D. G. Laury, Ottawa; G. R. Maser, Mission; F. J. Nash, Kansas City; E. J. Ryan, Emporia; J. W. Warren, Jr., Wichita; E. R. Williams, Dodge City.

In July of 1963, the chairman of the medical component of the Joint Medical Legal Committee met with Mr. John Royce of Salina, the chairman of the legal component of the same committee. The history of the activities of this committee were reviewed together, as well as the tenets of the Interprofessional Code for Attorneys and Physicians. It was agreed that a joint committee meeting would be held promptly at the request of either chairman whenever matters arose within the component Societies regarding either disputes arising between physicians and attorneys, as prescribed by the Code, or at the request of either

chairman for any other pertinent matters. There being no such proposals from either component Society, no formal Joint Committee Meeting was held.

JOHN A. SEGERSON, M.D., *Chairman*

RELATIONS WITH RELIGION

W. P. Williamson, Kansas City, Chairman, K. U. Medical Center; TA 2-5252.

J. H. Basham, Eureka; R. F. Cavitt, Shawnee Mission; L. Cohen, Topeka; W. M. Cole, Wellington; W. C. Goodpasture, Wichita; L. W. Hatton, Salina; W. O. Martin, Topeka; J. S. Menaker, Wichita; H. R. Schmidt, Newton; B. E. Stofer, Wichita; E. D. Yoder, Denton; W. H. Zimmerman, Topeka.

The Committee on Relations with Religion has been enlarged to represent a better balance of the major faiths. It has met and adopted the following statement, "The Kansas Medical Society Committee on Medicine and Religion has as its prime obligation the promotion of close cooperation and mutual understanding of the medical profession and the clergy in the total care of the sick. Under no circumstances will it enter into any political or sectarian activity."

The Committee is working closely with the Department of Medicine and Religion of the American Medical Association. Local committees of Medicine and Religion in each of the Council Districts are being formed, and will be invited to meet with the State Committee to outline plans and suggestions for activities at the district and county society levels. A course in Medicine and Religion at the K.U. Medical Center is being offered, and cooperative efforts with other local seminars are underway.

WILLIAM P. WILLIAMSON, M.D., *Chairman*

RURAL HEALTH

E. D. Yoder, Denton, Chairman; EL 9-3375.

C. E. Brown, Stafford; V. E. Brown, Sabetha; H. D. Doubek, Belleville; F. G. Freeman, Pratt; W. A. Harms, Hesston; P. H. Hostetter, Manhattan; P. U. Hunsley, Belleville; W. J. Justus, Pleasanton; F. Law, Ellinwood; B. N. Lies, Colwich; C. M. Nelson, Oberlin; R. L. Obourn, Eureka; L. W. Patzkowsky, Kiowa; D. Petersen, Herington; C. R. Svoboda, Chapman; M. H. Waldorf, Jr., Greensburg; H. O. Williams, Cheney.

The meeting of this committee, annually held at the University of Kansas School of Medicine with the Dean and heads of the various departments and with the Committee on Medical Schools, is held after the publication date at which time these reports are required. If this meeting produces recommendations or

a report of interest to the House of Delegates, it will be presented at the time the House of Delegates is in session.

EMERSON D. YODER, M.D., *Chairman*

SAFETY

R. C. Polson, Great Bend, Chairman, 1422 Polk; GL 3-8414.

N. C. Bos, Hutchinson; H. L. Bryant, Coffeyville; H. R. Draemel, Salina; A. C. Eitzen, Hillsboro; W. T. Elnen, Wichita; G. L. Gill, Sterling; L. G. Glenn, Protection; J. W. Graves, Wichita; J. A. Grove, Newton; C. L. Lewis, Kansas City; D. R. Miller, Kansas City; J. H. A. Peck, St. Francis; M. J. Rucker, Sabetha; W. C. Schwartz, Manhattan; H. E. Snyder, Winfield; R. D. Warren, Hanover.

This has been a busy and successful year for the Committee on Safety. Many of the activities undertaken by the committee during the past 12 months were suggested by resolutions passed at the annual meeting in Salina in 1963. A case in point was Resolution No. 10 which urged the University of Kansas Medical Center to conduct a two-and-a-half day course on Immediate Care of the Sick and Injured. The purpose of this course was to provide more advanced training than would otherwise be available to appropriate paramedical personnel who are involved through their daily activities in the immediate care of the sick and injured. The first such course was held at the Kansas University Medical Center on September 26, 27, and 28, 1963 and was sponsored by the University of Kansas Medical Center in cooperation with the Kansas Medical Society, the State Department of Health, and the Committee on Trauma of the American College of Surgeons. The course was taught by the faculty and was attended by 134 persons. Ten states and the District of Columbia were represented.

The Council of the Kansas Medical Society endorsed taking this course out over the state of Kansas in order to make it more readily available to participants. In keeping with this concept, the Sedgwick County Medical Society conducted an Immediate Care of the Sick and Injured course on March 11, 12, and 13, 1964. One hundred and nine people attended this course which was sponsored by the Sedgwick County Medical Society, the Sedgwick County Department of Health, and Gold Cross Ambulance, with administrative support of the University of Kansas Medical Center, the Kansas Medical Society, and the State Department of Health.

A third Immediate Care of the Sick and Injured Course is now approved by the Saline County Medi-

cal Society and plans are under way to hold the course in early June.

As an adjunct to the course, plans are now being developed to produce a standard guide for the immediate care of the sick and injured program. It is planned that this guide will contain the best of all three courses. At the present time there is no such guide book available in the United States. The need for such a guide has been clearly indicated through requests for information on this program by many of the other states as well as Panama and Brazil.

Another resolution passed by the House of Delegates in 1963 dealt with Medical Society support of a position in health education for accident prevention in the State Department of Health program. A most sincere effort was made by the committee as requested by the House of Delegates. The President, Dr. H. St. Clair O'Donnell wrote to the Governor and members of the legislature urging that a person be employed in this position. These efforts were not successful during this budget session but will be continued in the future. In regard to Resolution No. 5-4, passed by the House of Delegates in 1963, the committee recommended that the House of Delegates go on record as favoring a state law making seat belts mandatory for all occupants in cars and that all such belts be SAE approved.

Resolution No. 15 called for continued efforts by four of the Society's committees to establish medical standards for persons seeking licensure to operate a motor vehicle. In this connection, the Safety Committee in its December, 1963, meeting proposed that effective statutory means be adopted to establish constructive physical standards for motor vehicle drivers. The committee further proposed that unfitness to drive be defined with respect to certain cardinal mental and physical states and attributes, and that those thus defined as unfit to drive be statutorily denied licensure. In regard to this statement, the committee solicits the aid of the Motor Vehicle Department and its licensing authority, insurance representatives, the State Highway Patrol, and other committees of the Kansas Medical Society with respect to mental, visual, audiological, and chemical states.

As a result of this action, chairmen from the four Kansas Medical Society committees involved in Resolution No. 15 met with representatives of the various state agencies involved, members of the legislature, the governor's office, and others, to establish some form of over all committee to work on the various facets of medical aspects of drivers' licensure. As a result of this original meeting, a concurrent House Resolution was passed by the budget session calling for a legislative research council study of this entire subject. At this time, the Legislative Research Council

has invited representatives of all of these organizations to appear before the Legislative Research Council's committee responsible for this study. The meeting is scheduled for April 5, 1964.

A follow-up meeting was held with representatives of the Motor Vehicle Department, the Kansas Highway Patrol, and Kansas Medical Society representatives, and at that time a tentative program of action was outlined. It was decided that the Motor Vehicle Department would produce ten medical cases which have presented a problem to the department, for review by the Society's committee chairmen involved; namely, the Committees on Safety, Mental Health, Eyesight, and Conservation of Hearing and Speech. This group discussed also the possibility of the Menninger Foundation, through a U. S. Public Health Service Grant, studying the field of driver attitude in regard to safety in the operation of a motor vehicle. This possibility is now being explored.

Appropriate resolutions will be submitted to the House of Delegates in regard to the cooperation of the Kansas Medical Society through its Committee on Safety to cooperate with the Department of Health in preparing a master guide for Immediate Care of the Sick and Injured programs to be financed by a federal grant and funds from other sources if needed. It is estimated that the cost of preparing such a guide would be in the neighborhood of \$2,000. A second resolution requesting that the House of Delegates approve cooperation of the Society with the Kansas Motor Vehicle Department in regard to participation in research projects and other appropriate activities in the field of driver's licensure will also be presented.

R. C. POLSON, M.D., *Chairman*

SCHOOL HEALTH

C. M. Barnes, Seneca, Chairman, 15 S. Fifth; DE 6-2372.

M. D. Athon, Overland Park; W. F. Bernstorf, Winfield; R. D. Boles, Dodge City; V. L. Branson, Lawrence; R. E. Bula, Hays; W. W. Burney, Wichita; E. J. Chaney, Belleville; O. R. Cram, Jr., Larned; F. A. Dlabal, Wilson; E. S. Gendel, Topeka; E. D. Greenwood, Topeka; R. Greer, Topeka; A. J. Horejsi, Ellsworth; H. P. Jubelt, Manhattan; O. W. Longwood, Stafford; H. Lutz, Augusta; M. L. Masterson, Paola; C. T. McCoy, Hutchinson; W. E. Myers, Iola; C. M. Nelson, Oberlin; H. E. O'Donnell, Junction City; L. M. Pearce, Shawnee Mission; F. L. Smith, Colby; R. R. Snook, McLouth; S. Zweifel, Jr., Kingman.

The Committee on School Health expects to hold a meeting in connection with or near the annual

spring meeting of the School Health Advisory Council. Since this is scheduled subsequent to the date these reports are required for publication, supplemental reports if any will be offered to the House of Delegates on May 4, 1964.

C. M. BARNES, M.D., *Chairman*

STATE MEETING FORMAT

J. C. Mitchell, Salina, Chairman, 617 United Bldg.; TA 7-3061.

Q. C. Huerter, Bethel; L. S. Nelson, Jr., Salina; J. L. Perkins, Hutchinson; R. K. Purves, Wichita; E. J. Ryan, Emporia; R. Sohlberg, Jr., McPherson; R. C. Tozer, Topeka.

The committee met on July 21, 1963, and heard from the Topeka Committee their plans for the 1964 Annual Session. All these were approved and the host committee from Shawnee County proceeded in arrangements for all details relating to this meeting.

Upon invitation from the Reno County Medical Society, the committee approved that the 1965 Annual Session be held in Hutchinson. Because a large church convention has previously scheduled Hutchinson for the dates normally selected by the Kansas Medical Society, your committee recommends that the 1965 Annual Session be postponed to the second week in May and that the meeting will be held in Hutchinson, May 10-11-12, 1965.

Upon invitation from the Sedgwick County Medical Society, the committee recommends that the 1966 Annual Session be held in Wichita, May 2-3-4.

Upon an invitation from the Wyandotte County Medical Society, the committee recommends that the 1967 Annual Session be held in Kansas City, Kansas, on May 1-2-3.

J. C. MITCHELL, M.D., *Chairman*

STUDY OF HEART DISEASE

M. Snyder, Salina, Chairman, 105 S. 7th; TA 7-2222.

W. H. Algie, Kansas City; D. R. Bedford, Topeka; W. M. Campion, Liberal; E. W. Crow, Wichita; H. S. Dreher, Jr., Salina; M. I. Dunn, Kansas City; W. R. Durkee, Manhattan; C. W. Erickson, Pittsburg; H. A. Flanders, Hays; J. W. Graves, Wichita; C. T. Hagan, Wichita; D. Lukens, Hutchinson; P. W. Morgan, Emporia; L. E. Peckenschneider, Halstead; B. G. Smith, Arkansas City; H. B. Stryker, Jr., Concordia.

Since the annual meeting of the Kansas Medical Society in Salina, no problems, items of business or projects have been presented to this committee. Your chairman has communicated with a number of the members of the committee and no suggestions were made for a program for 1963-64, so the committee was not asked to meet.

Several of the past chairmen were contacted in regard to changing the title of this committee from "Study of Heart Disease" to "Cardiovascular Disease." This designation would have a much larger scope which would then include hypertension, cerebral vascular disease, renal vascular disease, peripheral vascular disease etc. in addition to diseases of the heart. The consensus of opinion was that this change be made.

In regard to the low cost penicillin program for the prophylaxis in recurrent rheumatic heart disease recommended by this committee and accepted by the Kansas Medical Society and the Kansas Heart Association, we have the following information. This was kindly supplied by Dr. Katherine Pennington, Chairman of the Rheumatic Heart Committee and Congenital Heart Disease of the K.H.A. As of February, 1964, there were 143 patients enrolled on the program. The cooperation of the druggists (to supply penicillin at near cost) has, in most cases, been fairly satisfactory. The number of patients on the low cost penicillin program will increase tremendously when the availability of this drug becomes better known to physicians. This will materialize in the near future, as soon as a review committee to screen applicants is appointed (probably in March, 1964).

Your committee is now, as in the past, cooperating fully with the Kansas Heart Association, State Board of Health and the University of Kansas Medical Center. The committee would welcome suggestions from the President, the Council or the House of Delegates for any future activities recommended or assigned.

MAURICE SNYDER, M.D., *Chairman*

VENEREAL DISEASE

C. M. Lessenden, Topeka, Chairman, 2101 W. 10th; CE 4-5533.

M. L. Bauman, Wichita; Caroline Brown, Kansas City; W. W. Burney, Wichita; A. B. Harrison, Wichita; W. M. Kane, Jr., Hays; G. McAfee, Lakin; M. D. McComas, Jr., Concordia; Walter Mau, Topeka; G. S. Voorhees, Leavenworth; V. L. Branson, Lawrence; E. S. Gendel, Topeka; C. V. Minnick, Junction City.

The Committee on Venereal Disease was reactivated this year at the request of the House of Delegates at the time of the annual meeting in Salina in 1963. The committee held one meeting in Topeka and decided upon the following program.

1. A series of articles to be prepared for the JOURNAL OF THE KANSAS MEDICAL SOCIETY. One article to be on AK Study; one, the position of a venereal disease interviewer; an article discussing the newer tests for syphilis, their interpretation and availability; an article on the current status of the treatment of syphilis, and, finally, an article on the medical workup on a patient with suspected syphilis

and the importance of increasing number of persons sensitive to penicillin.

2. The committee hopes to publicize and add to the curriculum at the University of Kansas Medical Center the position of the trained venereal disease investigator through the presentation of recorded interviews. The committee hopes also to encourage the Medical Center to adopt a program of student assistance at the Wyandotte County Board of Health Venereal Disease Clinic.

3. Effort will be made by the committee to work up a county medical society program through the use of loan slides available on the differential diagnosis of syphilis. The committee hopes to have an exhibit prepared for the annual meeting with part of this exhibit to be the presentation of a film. A resolution to the House of Delegates will be presented in a supplemental report prior to the annual meeting.

C. M. LESSENDEN, M.D., *Chairman*

WELFARE

John C. Mitchell, Salina, Chairman.

G. E. Burket, Jr., Kingman; N. L. Francis, Wichita; G. E. Kassebaum, El Dorado.

To: The House of Delegates

Dear Doctor:

It is my opinion that the Society might clarify its position regarding Welfare and the M.A.A. program. For this purpose, I prepared a series of statements which I submit as a report from the Committee on Welfare. It is my hope the House of Delegates may find this useful as a basis from which changes might be made as desired.

SOCIETY POLICY ON WELFARE AND M.A.A.

WHEREAS, health care for the indigent and a new program of Medical Assistance for the Aged under Kerr-Mills are much in the news, and

WHEREAS, the Kansas Medical Society has not clearly expressed its position on these two subjects,

Therefore Be It Resolved that the Kansas Medical Society approves the following principles:

1. The physicians of Kansas will continue, as they always have, to care for the sick, including the aged, regardless of their economic situation.

2. The physicians of Kansas endorse and support the concept of Medical Assistance for the Aged under Kerr-Mills as a means for preserving the economic status of the aged through a period of catastrophic illness whereby they may avoid the necessity of accepting Old Age Assistance.

3. M.A.A. is *not* Welfare nor does the fact that the local welfare department certifies their eligibility make M.A.A. another category under the Public Assistance program.

4. The State Board of Social Welfare eligibility standard for M.A.A. is so close to the eligibility for O.A.A. that the Kerr-Mills concept and the Kansas Legislature intent has been defeated.

5. The transfer of present recipients of O.A.A. who reside in nursing homes into M.A.A. for the purpose of obtaining a higher per cent of federal aid is, in spite of an apparent fiscal advantage to this state, false economy, and dishonest to the purpose of the Kerr-Mills law.

6. The declaration by Welfare that physicians will be paid identical fees for M.A.A. as for O.A.A. is a form of "involuntary servitude" that cannot be imposed. Medicine offered Welfare a greatly reduced schedule of fees for those persons who are under public assistance programs. The M.A.A. recipient qualifies for service benefits under Blue Shield Plan A. Medicine will accept this concept but will not be coerced beyond that point.

7. Therefore, the M.A.A. recipient will receive professional services from the physicians of Kansas as any other patient. Whether to care for any individual or to submit a statement to Welfare is the decision of the physician and his alone.

8. The Committee on Welfare will continue its efforts to bring about a broader eligibility, the prepayment principle, and an improved fee schedule for the M.A.A. program.

9. The Kansas Medical Society has endorsed the state-wide plan for health care in the traditional categories of Welfare, which became effective on April 1, 1964. It is admittedly not to the liking of all physicians. Some portions are distasteful to all. But there is logic to the philosophy upon which the plan is built.

(a) There has been gross inequality in existing plans in physician payment as well as in other factors which are hereby corrected.

(b) Recipients of welfare are the economic wards of government. Medicine contributes to this program by willingly accepting a great reduction in charges.

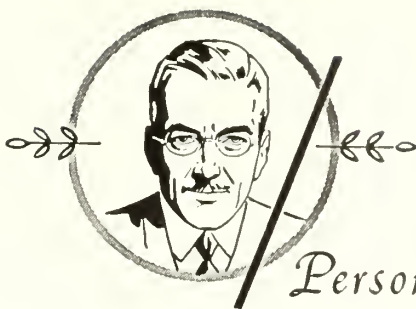
(c) By offering to prorate to hospitals a major share of the health care budget, which will pay costs or charges for the hospitalization of the indigent, medicine averts for the patient not on welfare the necessity of still higher hospital costs.

(d) Approval of the Kansas Medical Society of this program and disapproval of M.A.A. is the only way in which this Society can retain a consistent position.

(e) The practice of medicine is the individual service by a physician to his patient. Society approval of one and disapproval of a second program sponsored by the State Board of Social Welfare has no bearing whatever upon the participation in such programs by any physician with reference to any patient. This decision rests with the physician and with no one else.

10. The Committee on Welfare will continue to work with the State Board of Social Welfare toward the end that continued improvements may be made in health care for the indigent and will work specifically toward devising a satisfactory state-wide prepayment program for all recipients of welfare.

J. M. MITCHELL, M.D., *Chairman*



Personalities—IN KANSAS MEDICINE

Dr. and Mrs. Philip W. Morgan, Emporia, recently attended the annual meeting of the American College of Cardiology in New Orleans.

The annual Kansas regional meeting of the American College of Physicians was held at the Town House Hotel in Kansas City in February. Among the physicians who helped with arrangements for the meeting were **Sloan J. Wilson**, Mission; **William H. Algie** and **William T. Sirridge**, both of Kansas City. Guests included **William C. Menninger**, Topeka, a regent of the ACP. **Fred J. McEwen**, Wichita, governor for the Kansas division of the ACP spoke at the dinner session and presided at the luncheon.

H. D. Doubek, Belleville, attended a two-week postgraduate course on new techniques in surgery held at the Cook County Hospital in Chicago during March. He also attended meetings of the Chicago Medical Society.

In February, **James A. Wheeler** moved his residence and medical practice from Newton to Marion, where he has built a new home and office.

"Proper Care of the Body" was the subject of a discussion led by **Edgar H. Beahm**, of Independence when he spoke to the fifth grade science class at Riley School in that city in March.

H. W. Brooks, Wichita, was the guest speaker at the annual meeting of the Bethel Deaconess Hospital Association held in Wichita in March.

The annual clinic day and banquet for the board members and staff of the St. Thomas Hospital in

Colby was held in February. **A. A. Fink**, Topeka, was among those participating in the clinic day session.

Evalyn Gendel, Topeka, headed a panel discussion at a meeting of the Parent-Teachers Association in Medicine Lodge in February. The discussion, concerning a community health council for Medicine Lodge, was sponsored by the PTA to acquaint the public with the community health program. **Larry Ball** and **Dean Stucky** were among those serving on the planning committee.

Members of the Wichita Industrial Nurses Association heard **Jerome S. Menaker** speak on the topic "Time and Two Women" at their meeting in March. His talk regarding the early detection of cancer was followed by a film presented by the American Cancer Society.

Governor John Anderson has appointed a council on mental retardation to help establish a long-range program for comprehensive services for mentally retarded persons in Kansas. Among the physicians serving on the council are **Robert Riedel**, Topeka, **H. St. Clair O'Donnell**, Ellsworth and **Karl Menninger**, Topeka.

Frank James, Galena, who has been a practicing physician for 53 years, recently celebrated his 81st birthday. Dr. James still continues an active practice in Galena and is also head of the Cherokee County Health Department.

A panel discussion concerning sex education in the public schools was sponsored by the Brotherhood of the First Baptist Church of Lawrence in February. Participating in the program were **Raymond Schwegler**, **Vernon Branson**, **Dale Clinton** and **Howard Wilcox**, all of Lawrence.



Blue Shield

Report on the Second Annual Blue Shield Symposium

Blue Shield's Second Annual Symposium was held Saturday and Sunday, March 14-15, in Wichita. Some 90 Participating Physicians and their wives were guests of the Blue Shield Board of Trustees at the Hotel Lassen for the two day event which had as its central theme—"The Public's Expectations of Blue Shield."

Sessions were held Saturday afternoon and Sunday morning, culminating in an address by Dr. Norman Welch of Boston, president-elect of the American Medical Association. Other activities included a report on 1963-64 Kansas Medical Society progress by Dr. H. St. Clair O'Donnell of Ellsworth, president of KMS; Blue Shield staff presentations on public expectations for better prepayment products; a discussion of the proposed Blue Shield Deferred Compensation Plan; workshop sessions; and an opportunity for guests to view the activities of a Blue Shield Review Committee during its consideration of actual cases.

A brief summary of the high points of these activities follows—

**DR. NORMAN WELCH,
PRESIDENT-ELECT, A.M.A.
"THE MEDICAL PROFESSION AND
THE PUBLIC"**

Dr. Welch's comments centered upon the present position of the profession in its efforts to preserve the freedom of medical practice in America. He presented the view that the preservation of free medicine is directly related to the degree of public support that can be maintained in the future.

Noting the astonishing progress in medical science which has occurred in the past quarter-century, and the even greater thresholds of achievement that may soon be realized, Dr. Welch ascribed these as pri-

marily the achievements of a profession operating in a system of relatively unrestricted free enterprise. In contrast, he pointed to the singular lack of progress and general deterioration of achievement that characterizes the position of the professions in some nations which have experienced the loss of a system of free medicine.

That the system of free enterprise in medical practice has long been under attack in this nation is known to all physicians, remarked Dr. Welch. Many may overlook the fact that the rising expense associated with improved medical practice could increase the profession's vulnerability to this attack unless methods for the public to adequately budget this cost are developed, he continued.

It is in this latter aspect that Blue Shield enters the picture. Dr. Welch identified Blue Shield as the only instrument at Medicine's disposal which could be used by the profession to assure the public of a method by which their health care expenses could be economically prepaid. Its support by organized medicine, he concluded, is essential to the preservation of public support of the structure of practice which has produced and now sustains the most advanced status of professional medical progress the world has ever known.

First Session—Saturday, March 14

Events began with greetings from Dr. E. Burke Scagnelli, Dodge City, President of Kansas Blue Shield and Symposium Chairman.

DEFERRED COMPENSATION CLARIFIED

Following was a discussion of Blue Shield's Deferred Compensation Plan which is to be presented to the House of Delegates at its May meeting. Mr.

Murray Hardesty, Topcka tax attorney advising Blue Shield in the program's development, and Dr. Scagnelli moderated the discussion. Information that the minimum degree of contribution for a Participating Physician is proposed as five per cent (5%) of total Blue Shield income—to be deposited to his credit in a Trust Fund—was explained. It was also clarified that, to qualify as a Participating Physician, the proposed plan specifies that the doctor must agree to sponsor or participate in all available Blue Shield plans operating within the county in which he practices. That many details of the plan are still incomplete was pointed out. It was reiterated, however, that the basis of the program—for which the House of Delegates' direction is sought—is that it shall be a plan requiring a Participating Physician's minimum contribution of five per cent of Blue Shield income to be invested in a Trust Fund available upon the physician's reaching age 65, permanent disability, or death, and that status as a Participating Physician be defined as participation in all locally available plans.

NEED FOR BETTER BLUE SHIELD PROGRAMS DISCUSSED

Presentations by Blue Shield staff dealing with the public expectations for future Blue Shield programs were next on the agenda. The continuing demand of the public for greater predictability of coverage was explained. Data was shown indicating the degree to which Blue Shield coverage by specialty area is now below the range of public expectation. Information about Blue Shield's progress in encouraging selection of upgraded programs was presented. This showed that, although considerable growth has been achieved, further significant progress is unlikely without the development of better products featuring increased predictability and more adequate vertical coverage of certain areas of practice.

The need for the assistance of the medical profession in the development of more effective programs was explained as essential. Methods by which physicians and Blue Shield could develop such plans were discussed, with the new Blue Shield plan for paying physician's reasonable and customary charges now under experimental development in Riley and Geary counties being pointed toward as the most ideally suited to needs if found workable in operation.

REVIEW COMMITTEE ACTIVITY DEMONSTRATED

The first day's session closed with the presentation of a "live" Review Committee meeting. Actual cases minus identification were acted upon by Blue Shield's Wichita Area Review Committee after a brief introduction of the purposes and responsibilities of the Review Committee by Dr. Robert Purves, Wichita, a

member of the committee. Following the session there was some general discussion of the Review Committee's role in Blue Shield and of certain decisions that had preceded.

Second Session—Sunday, March 15

INDIVIDUAL PHYSICIANS SHARE THEIR VIEWS

Workshop-style discussions on events of the preceding day's agenda were conducted as the second session began. The majority opinions of each Workshop Group appeared to indicate a belief that the proposed Deferred Compensation Plan would be of positive benefit to both Blue Shield and Kansas physicians. A consensus of interest in local societies working in cooperation with Blue Shield to develop medical prepayment plans with better predictability seemed to emerge from each group. Following the Workshops, Dr. Norman Welch, president-elect of AMA, addressed the Symposium as described earlier.

PRESIDENT O'DONNELL REPORTS ON SOCIETY PROGRESS

The Symposium closed with a report of the past year's progress by Dr. H. St. Clair O'Donnell, president of the Kansas Medical Society. Dr. O'Donnell pointed to the high degree of activity by Society committees as commendatory, and especially cited the achievements of members who had worked on the Safety Project, the Small Hospital Accreditation effort, and such Medical Economic projects as better Accident and Disability coverage and Blue Shield Deferred Compensation. He reviewed the Kerr-Mills implementation activities in closing.

The impression received from Symposium guests contacted was that this year's event was generally successful and that a value is served in Blue Shield's meeting with the profession for the purpose of two-way communication about matters of mutual interest. It is hoped that those who attended will share their impressions with members of their local medical societies.

MARCH 15 MEETING OF THE KANSAS MEDICAL SOCIETY COMMITTEE ON BLUE SHIELD RELATIONS

Following the Blue Shield Symposium, the State Society's Committee on Blue Shield Relations, chaired by Dr. H. R. Schmidt of Newton, met briefly to act upon two resolutions for presentation at the May meeting of the House of Delegates.

It was voted that a resolution consistent with the previously described Blue Shield Deferred Compensation Plan be presented. Also enacted was a motion

(Continued on page 234)



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Agress, C. M. and Estrin, H. M. The biochemical diagnosis of heart disease. Thomas, 1963.
- Andrews, G. C. and Domonkos, A. N. Diseases of the Skin. 5th ed. Saunders, 1963.
- Ball, T. L. Gynecologic surgery and urology. 2d ed. Mosby, 1963.
- Biochemical clinics, no. 1, The heart; no. 2, The kidney. Donnelley, 1963.
- Brain, E. B. and Ten Cate, A. R. Techniques in photomicrography. Van Nostrand, 1963.
- Brieger, E. M. Structure and ultrastructure of microorganisms. Academic, 1963.
- Campbell, M. F., ed. Urology. 2d ed. Saunders, 1963. 3v.
- Cowdry, E. V., ed. The care of the geriatric patient. 2d ed. Mosby, 1963.
- Davis, L. E. and Davis, R. A.: Principles of neurological surgery. Saunders, 1963.
- Duncalf, Deryck and Rhodes, D. H. Anesthesia in clinical ophthalmology. Williams, 1963.
- Eissler, K. R. Goethe: A psychoanalytic study, 1775-1786. Wayne, 1963.
- Emmons, C. W., Binford, C. H., and Utz, J. P. Medical mycology. Lea, 1963.
- Evans, W. E. D. The chemistry of death. Thomas, 1963.
- Eysenck, H. J., ed. Experiments with drugs; studies in the relation between personality, learning theory and drug action. Pergamon, 1963.
- Fiorentino, M. R. Reflex testing methods for evaluating C. N. S. development. Thomas, 1963.
- Fisher, Sir R. A. and Yates, Frank. Statistical tables for biological, agricultural, and medical research. 6th ed. Hafner, 1963.
- Goldman, L. B. Early cancer. Grune, 1963.
- Gordon, A. S. Blood cell physiology. Heath, 1963.
- Harkavy, Joseph. Vascular allergy and its systemic manifestations. Butterworths, 1963.
- Havighurst, R. J. and Taba, Hilda. Adolescent character and personality. Science, 1963.
- Helfet, A. J. The management of internal derangements of the knee. Lippincott, 1963.
- Kimura, S. J. and Goodner, E. K., eds. Ocular pharmacology and therapeutics and the problems of medical management. Davis, 1963.
- Knight, C. A. Chemistry of viruses. Springer, 1963.
- Lashley, K. S. Brain mechanisms and intelligence, a quantitative study of injuries to the brain. Dover, 1963.
- McBride, E. D. Disability evaluation and principles of treatment of compensable injuries. 6th ed. Lippincott, 1963.
- McHardy, G. G. The medical treatment of peptic ulcer. Thomas, 1963.
- Nichols, H. T. and others. Open-heart surgery for mitral stenosis. Thomas, 1963.
- The prevention of hospitalization; treatment without admission for psychiatric patients. By Milton Greenblatt and others. Grune, 1963.
- Reimann, H. A. Periodic diseases. Davis, 1963.
- Roberts, J. A. F. An introduction to medical genetics. 3d ed. Oxford, 1963.
- Rogers, F. B. Epidemiology and communicable disease control. Grune, 1963.
- Sexton, W. A. Chemical constitution and biological activity. 3d ed. Van Nostrand, 1963.
- Shapiro, J. H. and others. Calcifications of the heart. Thomas, 1963.
- Shipp, T. J. Helping the alcoholic and his family. Prentice-Hall, 1963.
- Stent, G. S. Molecular biology of bacterial viruses. Freeman, 1963.
- Symposium on Fundamental Cancer Research, Anderson Hospital and Tumor Institute. 16th, 1962. Conceptual advances in immunology and oncology. Hoeber, 1963.
- Tomkins, S. S. and Messick, Samuel, eds. Computer simulation of personality. Wiley, 1963.



Book REVIEWS

THORACIC SURGERY, Volume I (Surgery in World War II). Col. John Boyd Coates, Jr., M.D., Editor in Chief. Dept. of the Army, Washington, D. C., 1963. 394 pages illustrated.

This volume is the first of two to be devoted to the experiences in thoracic surgery in the Mediterranean and European Theaters, and in the Zone of the Interior. The report of this type of injury in the Pacific Theater is to be included in the volume devoted to that area, as the problems encountered there were so different from the European and Mediterranean areas.

Dr. Frank B. Berry, the editor for the volume, contributes an extended historical note in which he relates the methods of care for chest injuries in earlier wars, particularly our Civil War and World War I. Study of these methods emphasizes the point that has been brought out in other volumes of the World War II series of books—namely, that it seems so often necessary to relearn principles of care which have been definitely demonstrated effective in earlier experiences. (This concerns military surgery, but the same thing is true in civilian practice.) This war was no exception, and it is the firm hope of those who are writing and editing these volumes that they will not be put on shelves only to collect dust, but will, by use, prevent the necessity of learning again what has already been learned in costly experiences. The information is here being made available to any who are willing to use it.

Much of the material in this book is based on the extensive records kept by the surgical teams of the Second Auxiliary Surgical Group, covering 2,267 thoracic and thoraco-abdominal injuries—a series unmatched in the history of military medicine, either in size or in the details of their records. (Parenthetically, and speaking personally, the fact that I was a member of this organization made the book more interesting to me, even though I had no part in its preparation.)

Unhappy experiences in the early days of the war, with excessive mortality and morbidity, led to the

development of better principles of care. Among these was the recognition of the importance of triage or the separation of those casualties which were transportable from those which were not. Emergency care, whether surgical or not (and as time went on it became apparent that non-surgical treatment was preferable for more of the *emergency* care than was at first realized), and the definitive care (which *was* surgical) were well standardized in principle. The presence or absence of cardiorespiratory embarrassment was the most important differentiation; embarrassment dictated early surgery and correction of the physiological disturbance as lifesaving, but its absence permitted transportation to hospitals farther to the rear, where most leisurely surgery could be done.

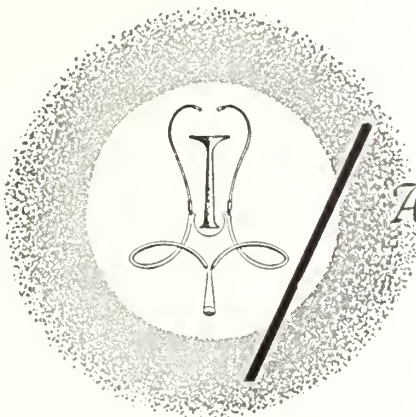
There is an excellent presentation of the basic principles of care, and of numerous specific details, including reports of improvised equipment used when the "usual" equipment was not available (for example for anesthesia or suction). An extended chapter on rehabilitation is included, with numerous illustrations of the exercises which have been proved valuable.

In no type of surgery is anesthesia more important than in thoracic work, and it is logical that a chapter should be devoted to this important phase of thoracic surgery, detailing the special requirements and the means of accomplishment.

While civilian thoracic casualties will not, of course, be handled in exactly the same manner as battle casualties, there are enough points of similarity to make this volume applicable to present day surgery of the chest, and certainly many of the principles are applicable regardless of the means of injury or where it occurs.—O.R.C.

CURRENT THERAPY—1963 by Howard F. Conn, M.D. W. B. Saunders Company, Philadelphia. 775 pages. \$12.50.

I recall that 15 years ago I reviewed a book for
(Continued on page 234)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

APRIL

- Apr. 27-30 16th annual meeting, Southwestern Surgical Congress, Granada Hotel, San Antonio, Texas.

May

- May 4-6 Annual Session, Kansas Medical Society, Topeka.
- May 6 Annual Dr. F. G. Thompson, Sr., Lectureship, Thompson, Brumm & Knepper Clinic, St. Joseph, Mo. Dr. James C. White, Boston, will speak on the subject "Somatic and Visceral Pain in the Trunk and Extremities: Evaluation of Neurosurgical Methods for Its Relief."
- May 7-9 Mid-Central States Orthopaedic Society, Continental Denver Hotel, Denver.
- May 9-14 American Proctologic Society and Section of Proctology of the Royal Society of Medicine, Bellevue Stratford Hotel, Philadelphia.
- May 11-14 Annual Scientific Meeting, Aerospace Medical Association, Miami Beach. Write: Wm. J. Kennard, M.D., Aerospace Medical Assn., Washington National Airport, Washington, D. C.
- May 22 Symposium on Clinical Aspects of Acute Leukemia, sponsored by the American Cancer Society and National Cancer Institute. New York Hilton Hotel, New York City. Chairman: Sidney Farber, M.D., Harvard Medical School.

POSTGRADUATE COURSES

American College of Physicians postgraduate courses:

- May 11-15 *Clinical Auscultation of the Heart*, Washington, D. C.
- May 25-29 *Medical Care of the Adolescent*, Boston, Mass.

- May 25-29 *Recent Progress in Endocrinology*, Seattle.

- June 1-5 *Recent Advances in Clinical Nutrition*, Boston, Mass.

Registration forms and requests for information on the above courses should be directed to: Edward C. Rosenow, Jr., M.D., Exec. Dir., The American College of Physicians, 4200 Pine Street, Philadelphia 4.

University of Kansas School of Medicine postgraduate courses:

- Apr. 27-28 *Otorhinolaryngology*

For information on the above courses, contact The Department of Postgraduate Medical Education, University of Kansas School of Medicine, Rainbow Boulevard at 39th Street, Kansas City, Kansas.

University of Colorado postgraduate courses:

- Apr. 23-25 *Clinical Dermatology*
- June 17-19 *Arthritis and Rheumatic Diseases*
- July 6-9 *Ophthalmology*
- July 20-25 *10th Annual General Practice Review*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

- Apr. 19 *Management of Anxiety States and the Place of Drugs in This Situation*, Neurological Hospital, Kansas City, Mo.

- Apr. 22-25 *Fractures and Other Trauma*, Chicago Committee on Trauma of the American College of Surgeons, John B. Murphy Memorial Auditorium, 50 E. Erie, Chicago.

University of Missouri School of Medicine postgraduate courses:

- Apr. 23-24 *Ophthalmology in the Practice of Medicine*

May 20-21 *Clinical Advances in Medicine and Pediatrics*

For additional information and reservations write: Gail Bank, Exec. Director, Postgraduate Medical Education, M-176, Univ. of Missouri Medical Center, Columbia, Mo.

May 5-15 *Introduction to Fundamentals of Reconstructive Surgery of the Nasal Septum and External Pyramid*. American Rhinologic Society. Presented at the Univ. of Cincinnati College of Medicine and Christ Hospital, Cincinnati.

ELECTIVE COURSE IN RELIGION AND MEDICINE

Saturday mornings, 11:00 a.m.
University of Kansas Medical Center
March 7, 1964 through May 16, 1964

- Apr. 25 Jewish Viewpoint—Rabbi Silverman.
- May 2 Minority Denominations (Unity, Christian Science, Jehovah's Witness, Holiness, etc.)—Dr. Carl Bangs, B.D., Ph.D., St. Paul School of Theology.
- May 9 Hospital Chaplains' Viewpoint—Rev. George Mundinger, Chaplain, K. U. Medical Center, and Father Norbert Lickteig, S.T.B., Chaplain, K. U. Medical Center.
- May 16 Psychiatry and Religion—Dr. Paul W. Pruyser, Ph.D., The Menninger Foundation.

Open to all physicians, nurses, paramedical personnel or interested parties without formal enrollment.

Blue Shield

(Continued from page 230)

regarding a resolution being submitted which would permit Blue Shield to experimentally offer an *optional group rider* to provide benefits for previously not covered dental services performed by Doctors of Dental Surgery. Information about this plan previously appeared in the March issue of the JOURNAL OF THE KANSAS MEDICAL SOCIETY.

Book Reviews

(Continued from page 232)

this JOURNAL called *Modern Methods of Treatment*. I objected to the title at that time, since in these days "modern" methods may well be obsolete the following day. Thus, I approve the title of the present book. Indeed it is current, concise almost to the point of terseness, but with the virtue of accuracy. The discussion of cholera requires some 600 words and for the purposes of this book more would be wasted. Other articles are equally spare, but at the same time providing footnotes where unusual medication or sera may be found; for instance, vaccinia immune gamma globulin, and for the benefit of most of us both the generic names and the commercial names of the drugs are given.

One of the longest and best sections is titled "Parenteral Fluid Therapy for Adults and Children." A very complete list of poisons and antidotes are provided plus a list of poison control centers in each state and in Canada.

Altogether this is a useful source book. The reviewer's copy will be available to you at the Stormont Medical Library at Stormont-Vail Hospital.—R.G.

In the days when a wood shed stood behind the American home, a great deal of what now passes as juvenile delinquency was settled out of court.—Link

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

John H. Bethea, M.D.
702 Mills Building
Topeka, Kansas

Ann B. McIntosh, M.D.
St. Margaret's Hospital
Kansas City, Kansas

Earl B. Gehrt, M.D.
505 South Plummer
Chanute, Kansas

Dean L. Peterson, M.D.
224 Medical Arts Building
Topeka, Kansas

Thomas M. Holder, M.D.
K. U. Medical Center
Kansas City, Kansas

G. Rex Stone, M.D.
1133 College Avenue
Manhattan, Kansas

Marvin E. Johnson, M.D.
1300 East 5th Street
Winfield, Kansas

Bill D. Wadell, M.D.
155 South 18th Street
Kansas City, Kansas

CHANGES OF ADDRESS

Members of the Kansas Medical Society will receive the JOURNAL and correspondence from the Executive Office promptly only if correct addresses are on file. Report changes to Kansas Medical Society, 315 West Fourth Street, Topeka, Kansas.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
 Summary of Cases Reported in December 1963 and 1962
 And cumulative totals for the first twelve months of 1963 and 1962

<i>Diseases</i>	<i>December</i>			<i>January to December Inclusive</i>		
	<i>1963</i>	<i>1962</i>	<i>5-Year Median 1958-1963</i>	<i>1963</i>	<i>1962</i>	<i>5-Year Median 1958-1963</i>
Amebiasis	4	9	4	93	93	93
Aseptic meningitis	—	1	*	—	35	*
Brucellosis	1	4	4	8	26	53
Cancer	592	343	531	4,878	4,225	4,878
Diphtheria	4	—	—	4	1	1
Encephalitis, infectious	2	2	2	21	25	31
Gonorrhea	195	198	199	2,901	2,287	2,794
Hepatitis, infectious	85	12	34	327	422	327
Meningitis, meningococcal	2	—	2	15	14	14
Pertussis	15	5	5	88	44	60
Poliomylitis	—	—	8	—	—	—
Rheumatic fever	—	1	—	—	11	3
Salmonellosis	39	4	8	309	328	88
Scarlet fever	21	29	29	317	484	484
Shigellosis	52	2	3	125	68	125
Streptococcal infections	322	54	225	1,717	1,228	1,228
Syphilis	80	81	83	1,055	1,153	1,250
Tinea capitis	15	8	15	77	133	136
Tuberculosis	29	28	24	283	270	275
Tularemia	3	9	3	22	22	22
Typhoid fever	—	—	—	2	—	3

* Statistics on 5-Year Median not available.

RABIES IN ANIMALS—KANSAS 1963
 POSITIVE LABORATORY REPORTS

<i>County</i>	<i>Animal</i>	<i>Number</i>
Barber	Skunk	1
Barton	Skunk—Cat	2
Graham	Skunk	1
Harper	Cat	1
Kingman	Skunk	1
Labette	Skunk	2
McPherson	Skunk	1
Morris	Skunk	1
Neosho	Skunk	1
Ness	Skunk	2
Osborne	Skunk	2
Reno	Skunk	1
Saline	Cat	1
Sedgwick	Skunk	1
Sherman	Skunk	1
Smith	Skunk	1
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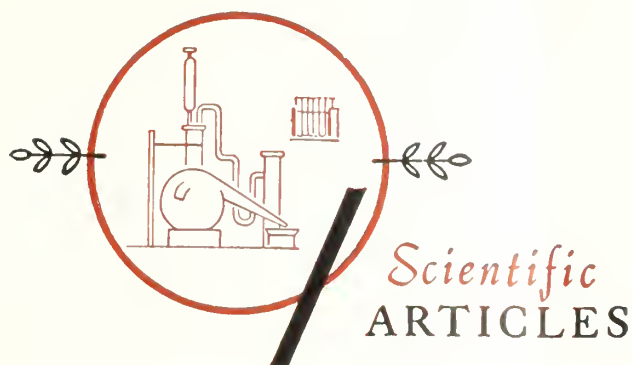
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Pancreatic Injury

Traumatic Transection of the Pancreas in a Child Complicated by Intravascular Hemolysis

DON R. MILLER, M.D., *Kansas City, Kansas**

ALTHOUGH ISOLATED INJURIES of the pancreas following blunt trauma have been infrequently recognized in the past,^{4, 8} it is likely that these injuries actually occur more commonly.¹¹ Simple pancreatic contusions or lacerations comprise most of these lesions. Complete transverse laceration or fracture of the pancreas has been unusual. In 1959 Letten and Wilson reviewed the literature and found only 14 recognized and adequately described cases of complete severance of the pancreas. Several additional cases have recently been reported.^{1, 4, 5, 8}

A two-year-old child who presented with this lesion was recently treated at the University of Kansas Medical Center. The case is believed worthy of this report because of the unusual features of (1) intravascular hemolysis, (2) meager early abdominal findings, and (3) late development of ascites.

Case History

H. M., a two-year-old, white female was admitted to the Pediatric Service on December 14, 1962, because of easy bruisability. Four days prior to admission, black bruises were noted on the back, shoulders and neck and above the left eye. That day she had fallen from a "jungle gym" while playing. Blood taken at that time showed a platelet count of 90,000. Two days later similar black ecchymoses and swell-

ing were noted over the bridge of the nose. The swelling and discoloration were decreasing at the time of admission. The child also had coughed for the preceding two weeks. Physical findings showed

A case of pancreatic transection in a two year old girl following non-penetrating abdominal trauma which was complicated by intravascular hemolysis is presented. Early recognition was obscured by the absence of a history of trauma, the presence of intravascular hemolysis, and minimal abdominal findings. The unusual development of late ascites resulted from perforation of the pseudocyst into the peritoneal space. The mechanism of injury, complications and treatment are discussed. Distal pancreatectomy resulted in prompt recovery.

a normally developed child. There were ecchymoses over the nose extending into the orbits, on the neck, the right forearm and most of the back. No petechiae were evident.

Laboratory studies at that time were: WBC 10,910. Hemoglobin 9.6 gm. Polys 37. Lymphocytes 58. Eosinophils 3. Monocytes 2. Platelets 416,000. Reticu-

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locytes 5 per cent. Clot retraction, bleeding time, prothrombin time, bilirubin, and direct Coombs were all within normal limits. Cephalin flocculation one plus. Heterophil agglutination negative. Stool guaiac negative. Blood transaminase 13. Rump-Leeds test negative. Partial thromboplastin test normal.

The ecchymoses decreased promptly and the child was dismissed with the diagnosis of thrombocytopenic purpura due to infection.

On March 14, 1963, the patient became ill after playing outside on the slide. Upon examination by parents several hours later, she was noted to have ecchymoses on the back and extremities. She complained of some pain in the abdomen when it was touched. She vomited repeatedly. The following morning the vomitus contained black fluid with some bright red blood. She remained weak and an elevation of 101.4° F. was noted. There had been no stools since onset and the urine had been scanty. The child was seen by the family physician and referred to the University hospital for further evaluation.

There had been no history of melena, epistaxis, hemoptysis, or chemical intoxication. There was no history of trauma; however, no one attended the child while she was playing outside.

The past history included recent second degree burns of the hands. Dietary history showed there had been an allergy to vitamin drops, and for this reason vitamin supplements were not used.

The birth weight was 7 pounds, 5 ounces. The delivery was uncomplicated. Family history showed the mother and maternal grandfather had easy bruising in childhood. Both paternal and maternal grandmothers had diabetes. There were no siblings. The father and mother were intelligent, concerned parents.

Physical examination on admission showed a well developed but undernourished white female child who was ill but not in acute distress. The lips and oral mucosa were dry and some small petechiae of the buccal mucosa were noted. The heart and lungs were not unusual. The abdomen appeared slightly protuberant. There was tenderness and questionable muscle guarding on palpation of the left upper quadrant. The spleen was believed to be palpable 2 cm. below the costal margin, and the liver 1 cm. below the right costal margin. Bowel sounds were normally present. There were ecchymoses over the lumbar area, right posterior auricular area, around the umbilicus, and on the extremities. The initial impression was questionable acute thrombocytopenia.

The hemoglobin was 11.4 grams per cent, WBC 16,500 with 56 per cent polymorphonuclear forms. The platelets were observed in adequate numbers in the peripheral smear. Urinalysis, specific gravity

1.014, albumin 2 plus, sugar negative, 15-20 pus cells on microscopic. The serum electrolytes were sodium 137 mEq/L, potassium 8.6 mEq/L, and CO₂ content 14 mEq/L. The prothrombin time was 71 per cent, bleeding time 1.5 minutes, partial thromboplastin time 71 seconds (control 83 seconds). Clot retraction was complete in two hours. Serum bilirubin, direct 0.2, total 1.3 mgm. per cent. Spinal fluid examination was not remarkable.

The chest x-ray was essentially normal. Flat and upright films of the abdomen showed gas diffusely scattered throughout the stomach and colon. There was no free peritoneal gas (*Figure 1*).

An indication for surgical exploration was not believed present initially by several consultants. Treatment by intravenous fluids and nasogastric decompression was begun. The gastric aspirate was green but contained some blood. The urine was scanty and had the appearance of "Coca-Cola" on the day following admission. It was found to contain hemoglobin, but hemosiderin granules were not present. At this time the serum hemoglobin was 220 mgm. per cent and the blood methemoglobin was negative. Examination of the plasma by spectrophotometry and Schumm's test showed methemalbuminemia. Severe oliguria persisted for five days. The blood urea nitro-



Figure 1. KUB film at time of admission. There is scattered gas throughout the colon and stomach.

gen rose to 156 mgm. per cent and the electrocardiogram showed peaked T waves. The oliguria was managed by fluid restriction and Mannitol. Plasma hemoglobin fell to 50 mgm. per cent within two days. The serum amylase was elevated to 518 Somogyi units on the third hospital day, but had fallen to 205 units when determined three days later. At this time, the diagnosis was quite uncertain. Diagnoses of acute poisoning by heavy metal intoxication, primary hematologic disease with acute hemolysis, acute pancreatitis, and trauma were considered.

The blood urea nitrogen had returned to 22 mgm. per cent by the 12th hospital day. There had been a gradual fall in hemoglobin to 6.4 grams although there was no persistent external blood loss except by repeated venipunctures for laboratory determinations.

The patient took oral nourishment poorly and vomited intermittently after removal of the nasogastric tube, but had greenish loose stools. The course was further complicated in the second week by a macular rash, persistent abdominal distention, guarding and tenderness, and pyelonephritis which responded to tetracycline. She was quite irritable during this period. Ascites first became evident on the 21st day. A KUB film (*Figure 2*) showed the ground glass appearance of ascites. The upper gastrointestinal series, barium enema, and intravenous pyelogram were within normal limits. The serum albumin had fallen to 2.7 grams. At this time, the serum amylase was 650 units. Liver function studies were normal. Paracentesis showed clear yellow fluid with amylase content of 1,947 units. Repeat examination one week later showed 3,192 units.

The diagnosis of pancreatic injury with intraperitoneal fistula was made and intra-abdominal exploration recommended on the 28th hospital day. One brief shower of petechiae was observed on the arms and legs. The tourniquet test was positive, but hematologic study did not show the cause. The child was subsequently transferred to the surgical service on the 42nd hospital day and abdominal exploration performed.

The abdominal space contained approximately two liters of straw colored fluid. There was mild hyperemia of the visceral peritoneum, and a few recent fibrinous adhesions between loops of small bowel. Some free fragments of yellow fibrin were present, particularly in the left upper quadrant along the greater gastric curvature and overlying the spleen. Inspection of the base of the transverse mesocolon showed a 3 mm. in diameter opening through which straw colored fluid was draining into the greater peritoneal space. Upon dividing the gastrocolic omentum, the lesser sac was found to be lined by a thick, yellow, fibrinous exudate not



Figure 2. Abdominal film which demonstrates the presence of ascites.

observed in the greater space. The lesser and greater spaces communicated through the previously described opening in the transverse mesocolon. The pancreas was found to be completely transected through the left lateral body except for a few strands of the posterior capsule, and the divided ends were covered by thin inflammatory exudate. The duct was not grossly visible in proximal or distal ends. Distal pancreatectomy and splenectomy were done, without technical problems (*Figure 3*). The proximal pancreatic stump was covered by adjacent retroperitoneal tissues and peritoneum. Although drainage around the stump was established, no significant postoperative drainage occurred.

The immediate postoperative course was unremarkable except for petechiae and swelling of the hands, legs and feet. The ascorbic acid level of 0.28 mgm. per cent and positive Rumpel-Leed's test suggested the cause of the petechiae to be increased capillary fragility which may have resulted from a deficiency in ascorbic acid. Hematologic investigation was again normal. The serum amylase had dropped to 100 Somogyi units by the first postoperative day. The patient was dismissed on the 12th postoperative day and when seen five months later in follow up, was asymptomatic and appeared healthy.

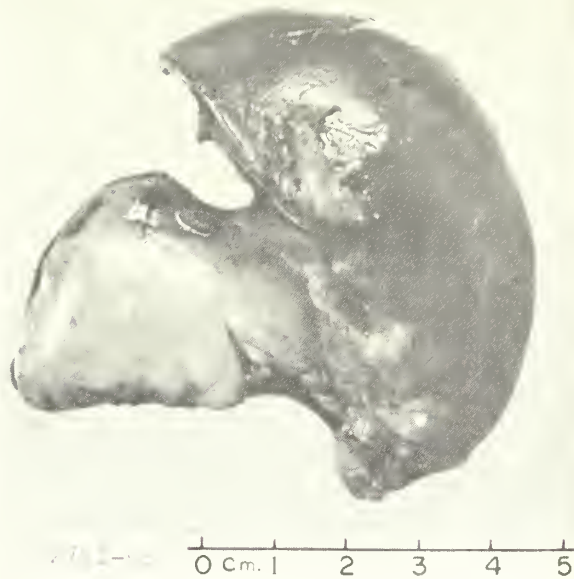


Figure 3. The resected specimen includes the distal body and tail of the pancreas and spleen. The divided duct was not grossly visible, and was very small upon histologic section of the gland.

Discussion

Mechanism of Injury. The pancreas is relatively sheltered from injury by its fixation in a retroperitoneal epigastric location with the protection of the lower rib margins. It is believed that most non-penetrating injuries of the pancreas result from a heavy blunt force upon the epigastrium which compresses the gland into the underlying vertebral bodies. This produces changes which vary from simple contusion to complete transection of the gland by the shearing action. Bracey reported a case of transection in which there was extreme lumbodorsal flexion in the sitting position without a direct blow to the abdomen. He postulated that upon flexion there is a lateral pull upon the posterior peritoneum due to the increased transverse diameter and pull on the lower rib cage which then exerts traction upon the gland pulling it in two.

A plausible mechanism in severe flexion injuries might be the entrapment and shearing of the gland between the xiphoid or either costal margin and the unrelenting vertebral column. It is possible that this injury will be seen more commonly as the use of seat belts in automobiles becomes more popular. The lack of a definite history of trauma in this patient contributed much to the delay in establishing the correct diagnosis. It is impossible to know the mechanism of injury in this child since no one is known to have observed the injury. It is possible that a

flexion injury could have occurred at the bottom of the slide. Rungs of the climbing ladder are other possible sources of blunt injury. It is even possible that the apparent trivial force of heads, fists and feet of small playmates may be misdirected in an innocent unintentional manner to cause an injury such as this. Regardless of the cause, it is unlikely that the force was great. Injuries of this magnitude which appear after apparently trivial injury have been reported by others.⁴

Recognition. It is well known that minor non-penetrating injuries in the pancreas may easily go unrecognized.² In such injuries there is usually only contusion of the parenchyma with inflammatory reaction. An elevated blood or urinary amylase⁶ will be diagnostic in most instances. There are few complaints and there may be minimal abdominal findings, usually consisting of mild epigastric tenderness.

It is not generally appreciated that severe injury to the pancreas, too, may not be associated with early abdominal symptoms or findings of such severity to indicate operative intervention. Reference has been made to this point in recent articles.^{1, 2, 5} Only two of 23 of the cases of Baker et al. were in shock at any time before operation, and ten patients were observed for various periods of time because signs of intra-abdominal injury were poorly defined. In that group of patients diagnostic abdominal tap was a valuable aid if the aspirate was bloody, was the color of "prune juice," or contained significant amylase. In the patient presented herein, abdominal findings of mild epigastric tenderness and distention did not suggest the severe lesion later found and in the presence of hematemesis, intravascular hemolysis and the absence of a known history of trauma did not constitute an indication for early abdominal exploration.

Complications. The finding of free plasma hemoglobin and methemalbumin after pancreatic trauma is indeed unusual and added considerable confusion to the early clinical course in this patient. Intravascular hemolysis is often a feature of hemolytic anemias and poisoning by toxic agents. Methemalbumin is a hematin-albumin compound formed from the degradation of hemoglobin in the plasma. Berridge and Watman produced free plasma hemoglobin and increased red cell fragility in dogs by inducing experimental pancreatitis and by the intravenous injection of trypsin. There was a direct correlation between plasma hemoglobin level and the amount of trypsin used. Five patients with pancreatitis were found to have hemolysis in plasma after incubation of the blood at body temperature for 24 hours. This suggests that the mechanism of hemolysis in this patient was the intravascular action of proteolytic enzymes upon red cells following absorption of the

enzymes into the blood from the peritoneal space or the traumatized pancreas. Since the proteolytic enzymes as well as plasma hemoglobin are excreted by the kidney, the renal insufficiency observed during this period may have permitted accumulation of enzymes at levels sufficient to cause hemolysis, and prevent excretion of the free hemoglobin which would ordinarily be removed promptly in the presence of normal renal function.

Complete transection of the pancreas is a serious injury which often ends fatally if operation is delayed too long.⁴ While hemorrhage about the contused, lacerated or transected pancreas can occur, this is unusual. More often there is a loss of plasma into the peritoneal space and lesser sac. The hematocrit has been noted to be about 50 per cent on admission in the majority of patients with pancreatic injury reported by Baker and others. The oliguria observed in this patient was believed to be in part related to this source of plasma volume loss.

Pancreatic fistula commonly results after extensive parenchymal contusion, laceration, or transection. In the series reported by Howard and Jordan, blunt injuries treated only by external drainage resulted in fistula formation in 67 per cent of cases. The cases they cited from the literature from 1945 to 1957 developed fistula in 38 per cent. In those patients who are not operated upon early, pseudocysts develop in many. The pseudocyst may appear within a few days after injury or may not be noted for several weeks or months.⁶ The fistulas resulting from simple drainage of the pseudocysts as well as primary drainage of pancreatic injuries sometimes constituted a major problem in Howard's series.

In this patient, the pancreatic transection was most likely followed by enzymatic peritonitis localized in the lesser sac with the early formation of a pseudocyst. The unusual late development of ascites resulted from perforation of the pseudocyst through the transverse mesocolon which then permitted decompression of the cyst into the peritoneal space with the development of ascites, hypoproteinemia and elevated amylase content of the serum and ascitic fluid. This complication has been previously reported.^{9, 10} The significant fall in serum amylase upon removal of the ascitic fluid suggests the serum amylase level was directly related to absorption of amylase from the peritoneal space.

Treatment. Early surgical exploration of pancreatic injuries is indicated. The gastrosplenic omentum must be widely opened in order to properly inspect the pancreas and assess the degree of injury. Contusions and incomplete lacerations in the body and head should be primarily drained, preferably with a sump.¹ When the pancreatic duct has been severed in the body or tail, distal pancreatectomy and closure of the

proximal stump provides for early recovery and little likelihood of persistent fistula.⁴ Of the 14 cases of pancreatic transection found in the literature by Letton and Wilson, only those three treated by excision of the distal pancreas failed to result in death, pseudocyst or fistula. Eighty per cent of the gland was removed in two of the cases reported by Hannon and Sprafka. This form of treatment has been followed by satisfactory results in the few reported cases.^{4, 7} Kinnaid's patient died on the eighth post-operative day of massive intra-abdominal hemorrhage.

When transection occurs at the head or neck of the gland, the proximal stump may be closed and the distal end drained internally into the stomach⁵ or jejunum by the Roux-en-Y technic.¹

NOTE: A 16 mm. colored movie depicting the important clinical features and the operative procedure will be available from the author after October 1, 1964.

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Myocardial Infarction

Diagnosis on the Basis of Ventricular Premature Contractions in the Presence of Left Bundle Branch Block

MICHAEL BERNREITER,* M.D., *Kansas City, Missouri*

ELECTROCARDIOGRAPHIC evidence of myocardial infarction is frequently obscured in the presence of left bundle branch block. In such cases ventricular extrasystoles may be the only clue that myocardial infarction has occurred. To be significant and diagnostic, such extrasystoles must show prominent Q waves and inverted T waves; the ST segments are bowing and may be isoelectric or elevated, depending on the age of the infarct.

Recently we have observed a patient who clinically represented evidence of myocardial infarction, but her electrocardiograms, showing left bundle branch block, were not conclusive. Certainly a definite diagnosis of infarction on the basis of these tracings would have been impossible.

Case Report

This case concerns a 77-year-old white female, admitted to St. Mary's Hospital with a chief complaint of dyspnea. She was in early congestive failure and digitalization was started. An electrocardiogram on the day of admission (*Figure 1*) revealed a left bundle branch block and frequent ventricular premature contractions. On the second day after admission the patient complained of being "sick all over" and she appeared cold and clammy. An electrocardiogram taken at that time (*Figure 2*) again revealed a left bundle branch block with frequent ventricular premature contractions. Two premature beats in Lead III showed deep Q waves, slight ST segment elevation and T inversion. The premature contractions seen in aVF show tiny Q waves, ST segment bowing and T inversion. These findings suggested a recent posterior myocardial infarction.

The patient's condition rapidly deteriorated in the

next few hours, her blood pressure, radial and apical pulse became unobtainable and she expired that evening.

The pertinent autopsy findings were advanced atherosclerosis of the coronary arteries, old and recent postero-septal myocardial infarction.

A case is reported where the presence of a left bundle branch block made the recognition of myocardial infarction practically impossible, but a few ventricular premature contractions gave rather conclusive evidence of posterior wall infarction. The diagnosis was confirmed by autopsy.

Comments

Ventricular premature contractions are a common finding after myocardial infarction. These extrasystoles at times show an infarct pattern when the sinus beats are not diagnostic. The diagnosis of myocardial infarction becomes particularly difficult in the presence of a left bundle branch block. To be diagnostic these premature beats must show fairly deep Q waves with ST segment bowing and T inversion. *Figure 1* in the case under discussion shows a left bundle branch block and many ventricular premature contractions, none diagnostic for infarction. *Figure 2* taken the following day shows deep Q waves, ST segment elevation and bowing and inverted T waves in two premature beats observed in Lead III and aVF, quite characteristic for posterior wall infarction. A pattern of left bundle branch block is again apparent. Without these premature beats it would certainly be hazardous to make a definite diagnosis of infarction.

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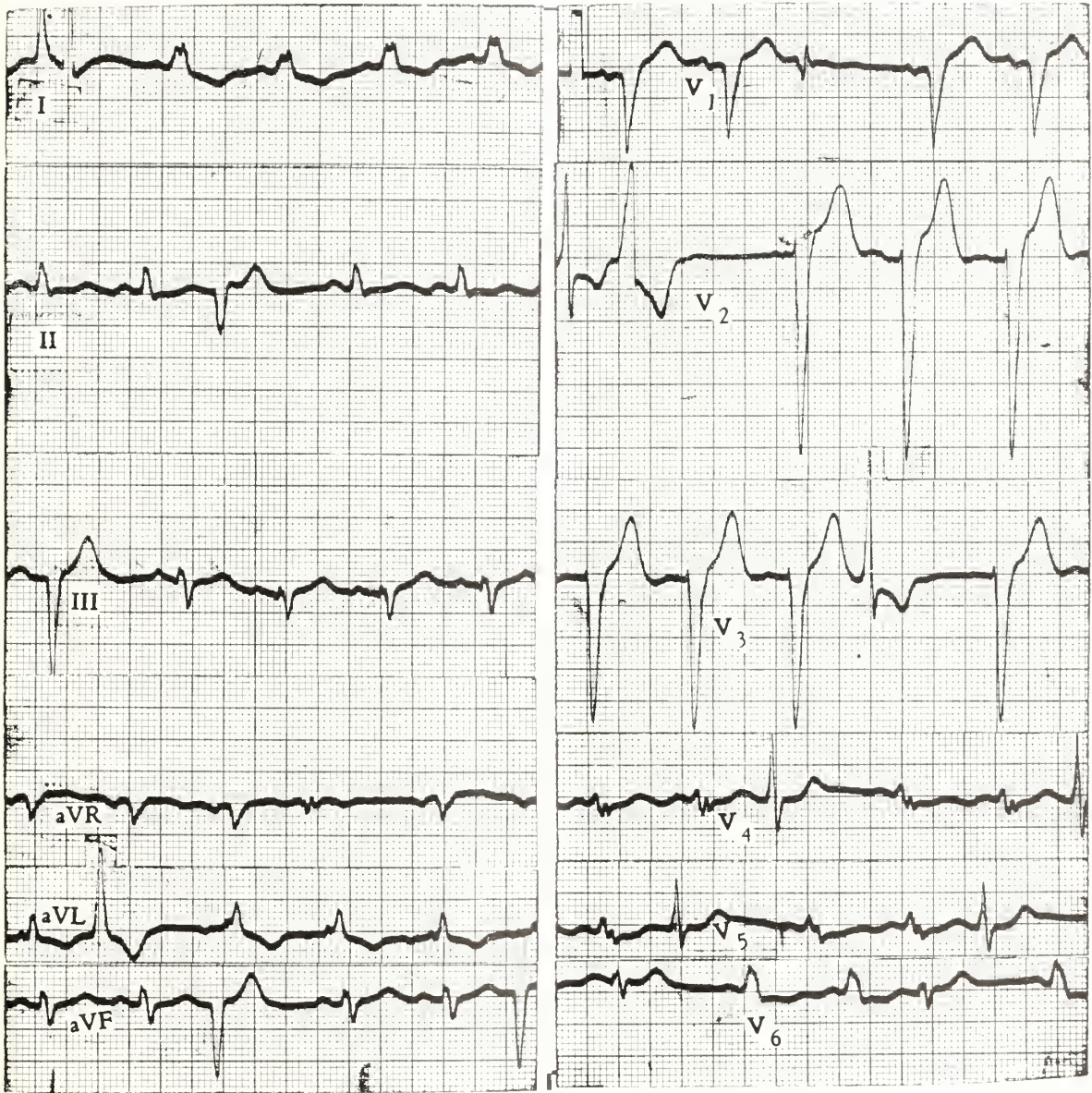


Figure 1. The above tracing shows left bundle branch block, and many ventricular premature contractions, none characteristic for myocardial infarction.

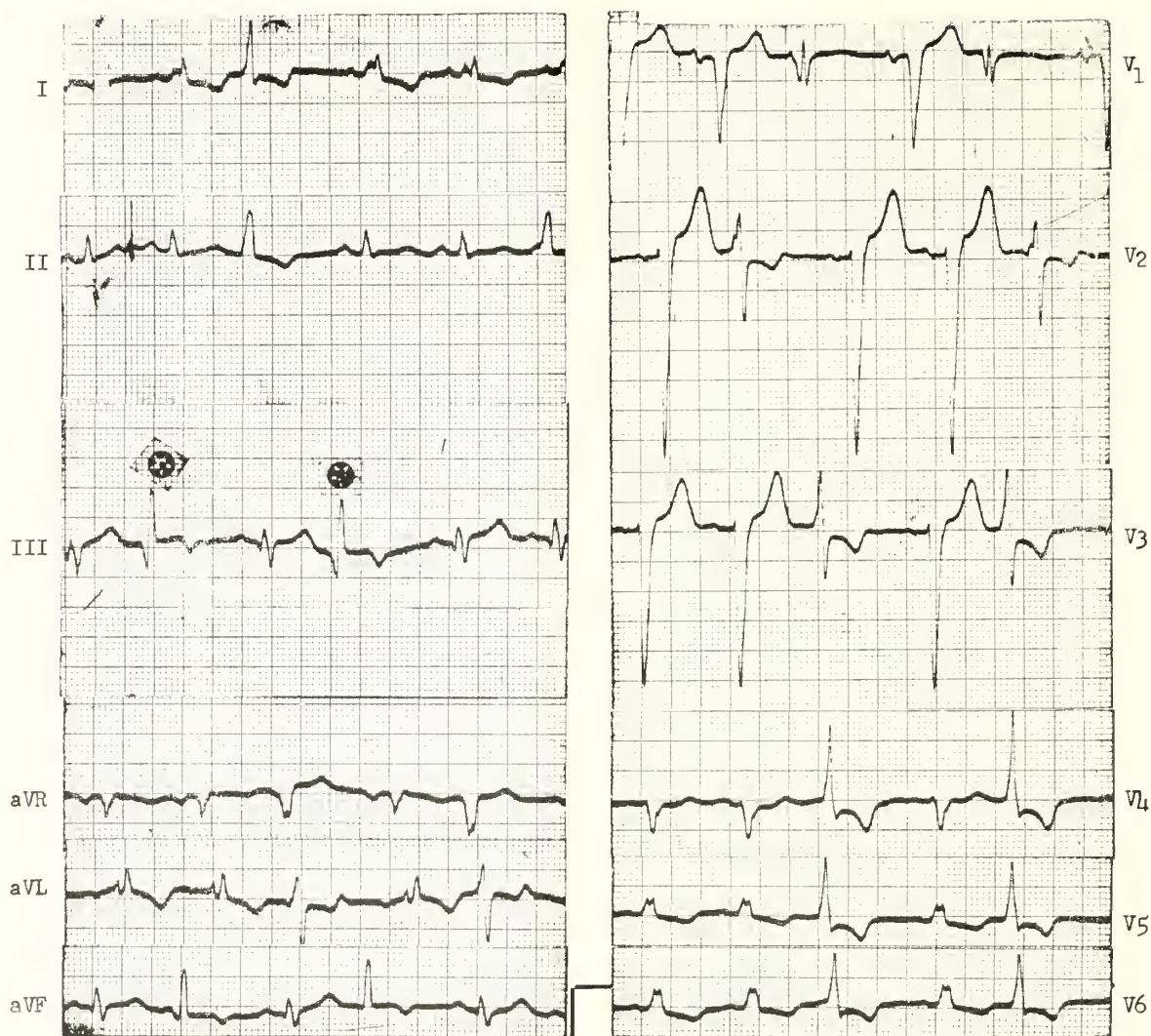


Figure 2. Tracing shows left bundle branch block. Two ventricular premature contractions seen in Lead III (starred) give evidence of posterior wall infarction. The ventricular premature contractions in aVF also show tiny Q waves, ST segment bowing and T inversion, giving further evidence of posterior wall infarction.

Vagotomy . . .

. . . and the Surgeon

T. C. KING, M.D., J. M. ZIMMERMAN, M.D., and
A. G. RAMOS, M.D., *Kansas City, Kansas**

THE CASE FOR vagus nerve section combined with some means of preventing antral stasis (either by antral resection or drainage) in the treatment of acid-peptic disease, seems to be becoming increasingly secure with each new review to appear in the literature. Perhaps the most serious complaint to be raised against these procedures, aside from the now poorly answerable question of long-term follow-up, is that most large series have been reported by workers with an expressed and established interest in gastrointestinal tract surgery and that their results in terms of adequacy of vagus section may not accurately reflect the results to be obtained by the average practicing surgeon. This paper will attempt to provide evidence applicable to that question.

This is a retrospective review of the vagotomies performed in the Kansas City Veterans Hospital from 1959 to 1962 by surgical residents, predominantly in their final year (fourth) of postgraduate surgical training. In all, 17 different surgeons, none of whom had any special interest or laboratory training in this aspect of surgery, performed the procedures. Cases done by staff surgeons during this period are excluded from the study. These resident surgeons had all assisted with numerous such operations before undertaking the procedures themselves and were at all times under the general supervision of staff surgeons during the operative procedures.

Reasonable efforts were made to recall for admission and follow-up study all patients who had been subjected to an operative procedure for acid-peptic disease or its complications during the three year review period. After admission the patients underwent a Hollander test. In this test insulin-produced hypoglycemia, which has an effect on gastric acid secretion mediated by way of the vagus nerve, is studied to see if either the volume or degree of acidity of the gastric aspirate can be modified; a negative acid-volume response presumes the absence of significant vagal influence on the stomach. In this review only those Hollander tests that were unequivocal

in their results (that is, where either total anacidity or a declining degree of acidity was encountered throughout the two hour test period) were considered as negative. All other cases, including those which were equivocal in their response, are listed as positive results and presumptive evidence of some

Three years' experience in the performance of vagotomy in combination with other procedures for acid-peptic disease by surgical residents in a Veterans Administration Hospital has been reviewed. The findings suggest that vagotomy is a safe, technically feasible, approach to the management of duodenal ulcer and that surgeons with a limited experience in this type of surgery can expect complete vagal interruption in a high percentage of cases (88 per cent).

persisting vagal influence on the stomach. Even though we encourage early return of the patient to his local family doctor for follow-up and in spite of the long distances many of our patients must travel to return to this hospital, the percentage of cases successfully followed with Hollander tests is satisfactory (81 per cent). We have no reason to believe that those patients who did not return for follow-up were in any way dissimilar from those studied except for the general observation that patients who have some difficulty with their operation or their postoperative course are most apt to return to a hospital of our type and any distortion in our over-all figures should be towards recovery of the incomplete vagotomy patients rather than the overlooking of them. In no instance was the Hollander test performed less than thirty days following the completion of the operative procedure; in most cases, the time interval was between 45 and 90 days post-operative.

*From the Veterans Administration Hospital, 4801 Linwood Blvd., Kansas City, Missouri, and the University of Kansas, Department of Surgery.

TABLE 1

TOTAL	109
Operative deaths	3
Thoracic vagotomy	7
Available for study	99
Hollander tests	80 (81%)

Results

During the three year study period from December, 1959, to December, 1962, 109 vagotomies were done for acid-peptic disease; 102 were done transabdominally and considered suitable for inclusion in this study (*Table 1*). Of these, there were three operative deaths and 80 had Hollander test follow-ups (81 per cent), 88 per cent of whom were demonstrated to have had a successful vagotomy (*Table 2*).

In *Table 3* the types of operative procedures are outlined. It will be noted that 90 per cent of the vagotomies were done in combination with either a pyloroplasty or an antrectomy, in roughly a one to two ratio. The eleven other procedures included predominantly transthoracic vagotomies for complications of ulcer occurring in patients previously having had subtotal gastric resections or procedures done in conjunction with operations for peptic esophagitis and hiatal hernia.

Tables 4 and *5* reflect the mortality in this series with three deaths in 109 patients for an over-all operative mortality of 2.7 per cent. It is interesting to note that all three of the deaths occurred in the 12 patients requiring emergency operative intervention for acute hemorrhage or obstruction—a mortality rate of 25 per cent. In the 97 elective cases there were no deaths.

Table 6 indicates the complications which occurred in these patients. There were 50 complications occurring in 41 patients or a rate of 38 per cent. We have considered any event which deviates from the ideal postoperative course as representing a complication and all patients with a single temperature

TABLE 2
RESULTS OF INSULIN TEST
(Abdominal Vagotomy)

Tested	80
Negative	70 (88%)
Positive	8
Equivocal	2

recording exceeding 100° F. were listed even though a brief sharpening of attention to tracheo-bronchial toilet often dissipated the fever. Complications sufficiently severe as to result in any prolongation of hospital course occurred in 22 patients (20 per cent).

In evaluating this morbidity information it is worth pointing out that we are dealing entirely with a Veterans Hospital population which consists largely of elderly males with diseases in many systems.

Discussion

Bachrach and others have raised a question regarding the adequacy of the Hollander test as an indication of thoroughness of vagotomy, but most evidence supports the position that if equivocal tests are considered positive and if a vigorous interpretation of the criteria for a negative result are utilized, false negatives will rarely occur.

It is apparent that only time can establish the value of these procedures when compared with the subtotal gastric resection. This type of study should provide some answers to the question which has been raised regarding the technical feasibility of the expanding indications for vagotomy. It is interesting that of those cases of recurrence following antrectomy-vagotomy which have thus far been reported in the literature,³ all recurrences occurred within six months of the operation. In the ten patients with equivocal or positive Hollander tests in our series there are no symptoms suggesting any recurrence even though the follow-up in all cases now exceeds one year.

We had one particularly puzzling patient who

TABLE 3
TYPE OF OPERATION

Vagotomy and Pyloroplasty	34
Vagotomy and Antrectomy	64
Billroth I	53
Billroth II	11
Vagotomy and Gastroenterostomy	3
Vagotomy and closure of perforated stomal ulcer	1
Transthoracic vagotomy	7

TABLE 4
MORTALITY

Emergency procedures	12
Deaths	3 (25%)
Elective procedures	97
Deaths	0 (0%)
Total	109
Deaths	3 (2.7%)

TABLE 5
DEATHS

1. 75-year-old acute bleeder aspirated on operating table, died p.o. day 3.
2. 70-year-old acute bleeder with preoperative pneumonia behind a lung cancer, died p.o. day 9.
3. 68-year-old acute obstruction, duodenal stump blowout, died 6 weeks p.o.

remains an enigma. This 40-year-old male had what seemed to be a perfectly adequate transabdominal vagotomy in conjunction with an antrectomy. Subsequently because of a positive Hollander test, he had a left thoracotomy for transthoracic vagotomy at which time one to one and a half inch segments of each nerve were removed from the distal third of the esophagus in the chest. When a repeat Hollander test was again positive, a right thoracotomy was done and one to one and a half inch segments of nerve were removed from both vagi adjacent to the middle third of the esophagus. This patient still has a positive Hollander test. The course of his vagal innervation to the stomach has not been found.

Summary and Conclusions

Three years' experience in the performance of vagotomy in combination with other procedures for acid-peptic disease by surgical residents in a Veterans Administration Hospital has been reviewed. The findings suggest that vagotomy is a safe, technically feasible, approach to the management of duodenal ulcer and that surgeons with a limited experience in this type of surgery can expect complete vagal interruption in a high percentage of cases (88 per cent).

TABLE 6
COMPLICATIONS

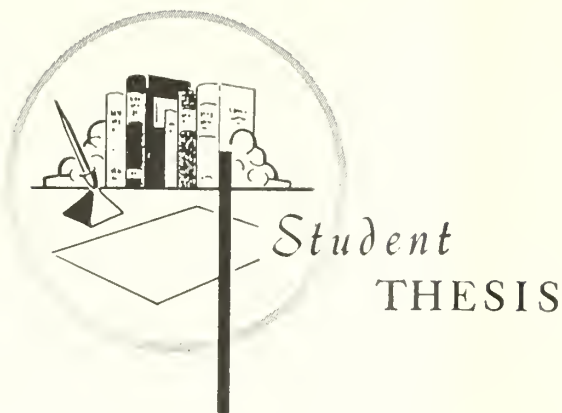
Delayed emptying	10
Pneumonia	9
Wound infection	7
Wound dehiscence	5
Splenectomy	5
Subphrenic abscess	2
Myocardial infarction	2
Duodenal stump blowout	1
Postoperative bleeding	1
Pancreatitis	1
Significant urinary tract inf.	1
Transient fever	6

While there were three deaths in twelve patients operated upon under emergency circumstances for acute bleeding, among elective cases there were no deaths in 56 antrectomies with vagotomy and no deaths in 31 with pyloroplasties with vagotomy. Since this is a retrospective study including only those cases done by surgical residents, no comparative inferences are justified regarding the alternative operative procedures utilized here, or any other operation advocated in treatment of acid-peptic disease.

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Youthful drivers in 1963 had the worst record of any age group in the United States. Young men and women under age 25 represent only about 15 per cent of the nation's licensed drivers, yet they were involved in more than 29 per cent of all fatal accidents and in more than 26 per cent of all non-fatal accidents.



The Etiology of Otosclerosis: A Review of the Literature

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Definition

OTOSCLEROSIS IS A disease of the ossicous labyrinth capsule in which there is a loss of movement of the stapes, brought on by bony ankylosis in its framework, or in the niche of the oval or round window and in the later stages, an atrophic degenerative process in the nerve endings in the membranous labyrinth. The otosclerotic process may also extend into the vestibule and involve the membranous cochlea. The name otosclerosis was proposed by Von Troltsch in 1881.

Ankylosis of the stapes was mentioned by Valsalva as early as 1735. He stated that the space between the crura and the base of the stapes is not filled with a membrane. The base of the stapes is fixed in the fenestra ovalis by this thin membrane, but not tightly enough to prevent its moving to a certain extent. In examining the body of a deaf patient he found that the cause of deafness was an ossification of this membrane so that the circumference of the fenestra ovalis in the base of the stapes formed a solid plate of bone, and the stapes was absolutely immobile. In 1766, Morgagni mentioned a case in which the membrane that connects the base of the stapes with the fenestra ovalis had become bony. In 1777, Meckel noted that the stapes may be adherent to the oval window, causing deafness. However, it was Toynbee (1841) who first described and emphasized otosclerosis as

ankylosis of the stapes to the fenestra ovalis, an important cause of deafness. He described the signs and symptoms of the disease with clarity . . . "Diagnosis of the affliction is, in the majority of cases, attended with little difficulty. The patient is found to be growing gradually deafer and deafer, frequently without any other marked symptoms, though often there is a feeling of fullness or pressure in the ears, or a buzzing sound when laying the head upon the pillow. If the progress of the affliction be left unchecked, total deafness results and may take place at an early period of life, as between the ages of twenty and thirty, though commonly it does not happen till a much later period." Toynbee attributes the disease process to "rheumatic gout" or "rheumatic disease" of the stapedio-vestibular articulation. He described an interesting symptom where there was momentary improvement of the hearing produced by very loud and sudden sounds. He was convinced that the loud scream released the stapes for a time, so as to "allow its movement by its muscle." The case he described was that of . . . "the Rev. L. D. aged between fifty and sixty, saw me in the year 1856, but not on account of his deafness for which he did not seek advice, . . . in the year 1856 while this gentleman was superintending his Sunday School, he was called upon to seize a boy who was endeavoring to bite his teacher, when to use the clergyman's own words 'he (the boy) sent such a yell into my right ear that I heard not only the yell, but for days I heard all other sounds most distinctly, when it, the hearing, again relapsed.' "

To Politzer in 1893 is attributed the first report of otosclerosis as a separate entity. Otosclerosis according

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Guastello is now serving internship at the St. Luke's Hospital, Kansas City, Missouri.

to Politzer is generally the result of a diffuse inflammation of the mucous membrane of the tympanic cavity and is often complicated with ankylosis of the malleus and the incus, with adhesions between the membrana tympani, the ossicula and the inner wall of the tympanic cavity and with the formation of the stria and bridges in the cavity, sometimes also with calcification of the membrane of the fenestra rotunda.

Although investigations into the etiology and pathogenesis of the disease were continued, during the first half of the 20th century most of the interest has been in the direction of surgical improvement of hearing. In 1923, Holmgren reported four cases in which he performed the first fenestration operation. However, it was not until 1938, when Lempert devised a new technique in the fenestration operation, that this operation became feasible and popular. In 1953, Rosen's stapes mobilization operation replaced fenestration, and was the surgical procedure in the therapy for otosclerotic deafness. In 1956, J. J. Shea first reported the stapedectomy operation. In 1961, Shea gave a five year report on his operation, fenestration of the oval window with vein graft, the results showing the closure of the ear bone gap to within 10 decibels in 90 per cent of the cases.

Although the trend has been toward surgical improvement of otosclerotic deafness, there has been much investigation into the etiology of the disease. It is the purpose of this paper to review the literature on the etiology of otosclerosis.

Although the etiology of otosclerosis still remains obscure, many theories as to its cause have been postulated. None of these alone completely answer the question to the etiology of otosclerosis. As a rule, there are three general etiological factors considered responsible for the development of otosclerosis. These are: (1) Constitutional factors, (2) Local factors and (3) Systemic or activating factors.

Constitutional Factors

There is a definite familial tendency, for 60 to 70 per cent of patients with otosclerosis have a familial history of progressive hearing loss. The morbidity rate for otosclerosis is higher for siblings and parents of persons with otosclerosis than for the general population. The mode of inheritance of otosclerosis cannot be established with certainty. However, according to Larson's genetic analysis, results accord best with the hypothesis of a monohybrid autosomal dominant inheritance with a penetrance of the pathological gene between 25 to 40 per cent.

Guggenheim postulates that the pathological gene is a primitive (fish) gene which is normally present in the lower vertebrate where the labyrinth contains no oval or round window. According to the "regression theory" of Guggenheim, otosclerosis is due to

the presence in the human ear of this primitive gene and nature is merely attempting to reproduce the primitive type of labyrinth.

Local Factors

Karl Wittmaack in 1919, produced a pathological process in the labyrinthine capsule of the hen which showed striking similarity to human otosclerosis. He achieved this by injecting ferric chloride into the lumen of the intracranial median sinus. Circulation in the capsule was stopped and sufficient venous stasis was produced to bring about the bony changes similar to otosclerosis. He believes that otosclerosis is due to the venous stasis. However, he adds "in spite of this knowledge, the problem of otosclerosis is not solved. The question now arises as to the cause of the venous stasis." With the author's admission that the problem is not solved plus keeping in mind that the structure of the hen's capsule is different from the human, one must come to the conclusion that Wittmaack's experiments have thrown no light upon the etiology of otosclerosis. Other factors which seem to be opposed to venous stasis as to the sole etiological factor of otosclerosis are: (1) The experimentally produced condition in hens is always generalized as to the capsule, whereas, otosclerosis occurs at certain sites of predilection, namely in the oval window, the round window, between the two windows, in the internal auditory meatus, and near the superior semicircular canal; (2) Except for the presence in otosclerosis of certain vessels engorged with blood, there is no proof that venous stasis exist in otosclerosis. It is of note that in any very active bone change, enlarged vessels are physiologic, and (3) Although formerly Wittmaack believed that venous stasis was absolutely necessary to the production of otosclerosis he finally admitted that even without this gross stasis and as a result of individual disposition, otosclerosis may develop.

Bruhl in 1926 postulated mechanical irritation as an etiological factor. Bruhl's theory commenced with the statement that clinical otosclerosis is identical with osseous ankylosis of the stapes. It continued by describing the true pathologic bone form, which leads to ankylosis, as consisting of a sponge-like, new-formed bone which starts from the space anterior to the oval window. By mechanical irritation as a result of constant movement of the annular ligament and the contractions of the tensor tympani muscle there is a disturbance of the old bone by resorption and later replacement by new bone which is formed in excess.

Arguments against this theory were presented in 1931 by Otto Mayer. He states, "If it were true that the new bone formation is a result of the mechanical irritation from the annular ligament, one would ex-

pect that new bone formation would begin in the cartilage layers. I possess four temporal bones with beginning new bone formation on the anterior border of the oval window, in which the cartilage layer is perfectly normal, the new bone being anterior to it and impossible of irritation from the pull of the annular ligament." . . . "The contraction of the tensor tympani muscle cannot irritate the point of predilection, as the muscle has no relation to the area. Just anterior to the oval window the muscle lies in a canal lined with thick, firm connective tissue in which the muscle and tendon move freely. The tendon passes around the processus cochliariformis, which should be the irritated point, and the processus cochliariformis shows no otosclerotic change nor does the bone to which it is attached. Also, Bruhl's theory could not explain otosclerosis in the region of the round window, internal auditory meatus and region of the canals." Mayer then presented his own theory. He believed that the continuous strain on the primitive bone in hereditarily predisposed individuals accounts for the growth of a more mature bone, otosclerotic bone. He has found spontaneous fractures in the point of predilection for the disease in 60 series. These fissures were not empty, but filled with fibers, poor in cells and partly ossified. Although he was unable to determine the nature of the profound strain he was able to prove its existence by the fractures. Angeluscheff in 1953 attempted to determine the nature of this external strain by demonstrating the pathological similarity between bone exposed to ultrasonics and otosclerotic bone. He supported his theory first with the experiments of Palm who demonstrated collagenous sclerosis in the tissue of rabbits' ears following exposure to ultrasonics and then by demonstrating in bone exposed to ultrasonics an initial thickening and proliferation of connective tissue cells in the periosteum. Later the intercellular substances become more dense and finally an osteoid tissue which displays areas of liquefaction is formed. Angeluscheff's theory, like so many of his predecessors, leaves something to be desired. He states that the possibility of a hereditary predisposition or hypersensitivity in bone may be a contributing factor in the specific family occurrence of otosclerosis and that a low hormonal resistance or reserve may be a significant predisposing factor when subject to ultrasonic vibrations.

Altman and Sercer seem to agree with Mayer in attributing the development of otosclerotic foci to mechanical strains and stresses. However, Sercer approaches the problem from a different angle. He believes that otosclerosis is not caused by extrinsic mechanical forces as Mayer had assumed, but is caused by intrinsic strains developing during the growth of the skull and acting upon the petrous pyramid as the result of the angulation of the base of the skull.

Therefore, otosclerosis is the result of an incomplete adaptation of the human skull to the upright gait. Sercer supports his theory by pointing out that the labyrinthine capsule during its phylogenetic as well as its ontogenetic development undergoes a rotation. The cochlea moves forward and upward and the vertical semicircular canals backward and downward, while the position of the lateral semicircular canal remains unchanged. The rotation of the capsule is brought about by an angulation of the base of the skull at the sphenoidal axis, which in turn is a consequence of the transition from the quadrupedal to the upright gait. The angulation has a decisive influence upon the position of the petrous pyramid, which has an almost vertical position in the quadrupeds and a horizontal position in man. The labyrinthine capsule which is enclosed in the petrous pyramid, rotates in a direction opposite to that of the pyramid and in this way the position of the lateral semicircular canal remains unchanged. The angulation of the base of the skull gradually increases during childhood and does not reach its maximum until after puberty. The degree of the angulation varies among races and individuals and represents an inherited characteristic. It is less notable in the Negroes than in the white races.

The fundamental feature of a tumor is its autonomy of growth and metabolism. Brunner's theory is that the otosclerotic nidus is a genuine primary tumor of the bone of the labyrinthine capsule and probably originates in the area of the borderline of the enchondral and periosteal layers. He supports his theory first by showing the autonomy of metabolism of otosclerosis in a patient with this disease and ochronosis. "In ochronosis homogentisic acid circulates in the blood. Because of chemical or fermentative action, a pigment is formed from the homogentisic acids and this pigment is deposited in the cells of the cartilage. The petrous bone differs from the rest of the skeleton because in it, the pigment is not deposited in the cartilage, but in the periosteal and endosteal layer of the bony capsule. In the enchondral layer only a few osteocytes contain the pigment. This fact is self-evident. The enchondral layer contains only a few patent blood vessels and has for this reason, a markedly diminished metabolism. However, in the case which I observed there was an otosclerotic focus in the window area, in addition to ochronosis. The focus was well vascularized and yet there was no pigment present in it, although there was a great amount of pigment in the periosteal layer, close to the focus. This is a crucial experiment and proved that the metabolism of otosclerosis is autonomous, in other words that in the otosclerotic focus there is a new metabolism which is not normal and is not subjected to normal restraints." From his other experiments he concluded that the otosclerotic nidus grows auton-

omously entirely independent of the growth of the rest of the capsule and the nidus is not affected by the changes taking place in the rest of the labyrinthine capsule. He points out that "otosclerotic tumor" has features in common with osteoid osteoma, however, the differentiation points are: (1) "otosclerotic tumors" are not self-limited as are osteoid osteomas and (2) "otosclerotic tumors" do not grow by expansion (pushing aside the adjacent structures) as do osteoid osteomas.

Fraser's name stands out among the supporters of the inflammatory theory. According to Fraser (1914) the disease was due to a chronic local infection in the mucoperiosteum of the tympanum in the region of the anterior margin of the oval window. He presented the pathological findings in a case showing that the otosclerotic changes were directly associated with a chronic inflammatory process involving the labyrinthine capsule from deep layer of mucosa in the region of the anterior margin of the oval window. Fraser states that it is almost impossible to exclude otitis media as a cause of otosclerosis for almost all children at one time or another have an attack or repeated attacks of earache. He goes on to state that in the vast majority of cases, otitis media passes off and leaves no deafness behind, nor any changes in the drumhead. But it is possible for the tympanic membrane to return to normal while local infection may linger in the region of the anterior margin of the oval window. Most of the supporters of the inflammatory theory as well as Fraser agree that the inflammation of the middle layer does not explain everything. To quote Fraser, "an attack of otitis media may be compared to the match or cigarette end that lights the fire and hereditary tendency and the female sex correspond to the inflammatory material."

The possibility that otosclerotic foci were formed in response to localized disturbances in the blood supply of the capsule was postulated by Mayer as far back as 1917. Lempert and Wolff as late as 1950 still championed the hypothesis that otosclerosis is the result of damage to the peripheral blood supply. Mayer felt in 1917 that the otosclerotic foci developed in areas supplied by certain end arteries and that the vasomotor changes, as well as organic disease of the vascular wall, were possible causes of the disturbances. He has long since given up the hypothesis of vascular disturbance because the distribution of the arteries did not always coincide with the distribution of the otosclerotic foci. Lempert and Wolff believed that the vascular changes preceded the bone changes in the development of otosclerosis. From their study of a large collection of ossicles they arrived at the hypothesis that otosclerosis has no specific cause but that it is the result of damage to peripheral blood supply. The damage might be chemical, vasomotor, allergic or trauma from vibratory phenomena.

Systemic or Activating Factors

It is astounding and of interest to review the many and varied systemic diseases to which the etiology of otosclerosis has been attributed. Some of the more important theories attributed otosclerosis to a gout or rheumatic diathesis, anemia, syphilis, tuberculosis, bacterial infection, intestinal intoxication, endocrine disturbances and lastly avitaminosis.

As early as 1857, Toynbee advanced the theory that otosclerosis was a form of "rheumatoid gout." Haberman in 1903 was convinced that the disease was caused by syphilis. He based his theory on finding in a series of thirty cases of otosclerosis, four cases of syphilis and the probability of syphilis, although not proven, in the other twenty-six. Cornet in 1908 hypothesized that the etiology was due to chronic toxemia probably of gastrointestinal origin. However, he was wise in stating that it was impossible to establish experimental proof to support this hypothesis. There have been many attempts to attribute the etiology of otosclerosis to abnormalities of the ovary, pituitary, thyroid, and parathyroid gland. Nylén and Nylén set out to prove the importance of hormones in the cause of otosclerosis. Their experiments with the injection, *inter alia*, of different sex hormones on guinea pigs have not given any otosclerotic alterations in the otic capsule. Mirvish (1930) set forth to prove the etiological relationship between otosclerosis and hypoparathyroidism. The author treated a series of three cases of otosclerosis with parathormone injection with the result of complete arrest of the progress of deafness in one case and considerable improvement in hearing in the other two. From this work he concluded that otosclerosis is analogous to osteomalacia and rickets and that these three metabolic diseases have as the basis of their pathology a common factor, namely, a state of hypoparathyroidism. At the opposite end of the spectrum of parathyroid diseases we find Mayer's theory. In 1911 he recorded the histopathologic similarity between Von Recklinghausen's disease and otosclerosis. Slaughter in 1940 injected parathormone into guinea pigs, rabbits and dogs. In examining histologically the temporal bones removed from these animals, he found histopathologic similarity to that of Von Recklinghausen's disease. He concluded from his experiments that hyperparathyroidism is one of the causes of otosclerosis. Many investigators have tried to prove a basic etiologic factor common to otosclerosis, osteitis fibrosa (Von Recklinghausen's disease) and, osteitis deformans (Paget's disease). Most of their conclusions have been drawn from the similar histopathologic changes seen in the three diseases. However, the main objection to classifying otosclerosis as etiologically identical to Paget's and Von Recklinghausen's disease is that bone reacts to many different stimuli in an identical way.

Histological similarity or even identity of bone changes does not necessarily have any bearing on the underlying cause. For that matter who would say that Paget's disease and Von Recklinghausen's disease have the same etiology? Lindsay (1950) presents the objection that otosclerosis differs from Paget's disease in its extent, rate of development and hereditary tendency.

Since 40 to 60 per cent of all cases of osteogenesis imperfecta showed otosclerosis, Hall's attention was directed toward the points of resemblance between the two diseases. He attempted to prove that otosclerosis and osteogenesis imperfecta have similar etiologies. In osteogenesis imperfecta, the imperfect development of the osteoblast induces an instability of the bone which immediately undergoes osteoclastic absorption and replacement with healthy bone. From his study of otosclerosis at Edinburgh, Hall noted evidence of healing bone, but no evidence of breakdown of bone and concluded that at some time in the disease process osteoclastic activity must have been predominant. He concluded from his findings that otosclerosis is fundamentally an osteoblastic insufficiency, and has the same basic etiology as osteogenesis imperfecta, differing only in degree, extent and location. However, Altman (1962) from his study of the temporal bones of three fetuses with osteogenesis imperfecta congenita was unable to conclude from the histological evidence that otosclerosis and osteogenesis imperfecta have the same etiology.

After blood biochemical examination of 581 cases of otosclerosis, Kopetzky maintains that the factors at fault which evolved otosclerotic lesions on the otic capsule are hyperpyruvemia and hypercholesterolemia. He feels that the cellular pathology is due to a lack of lipotropic factors which causes an increase in serum lipids and a deposition of lipids in the arteries, capillaries and a subsequent anoxia to the cochlea. Atrophic areas form as a sequence to the deficiency outlined and the intermediate carbohydrate metabolism of calcium is disarranged with subsequent imbalance in the calcium-phosphorus ratio. There then occurs abnormal osteoblastic and osteoclastic activity with areas of bone rarefaction and new bone deposits abnormally placed in the layer of the otic capsule. Kopetzky's theory attributes the etiology of otosclerosis to an enzymatic biochemical dysfunction which precedes and causes the cellular pathology. The questions which are left unanswered by this theory are: What is the cause of the enzymatic biochemical dysfunction? Is this dysfunction "an inborn error of metabolism" and thereby being genetically transmitted? Or, is this an acquired lesion, the tendency being heritable?

Lerner reported a case of a 33-year-old female with urticaria pigmentosa, x-ray and biopsy evidence of bone changes and bilateral otosclerosis. She postu-

lated that is a possibility that all these symptoms and signs result from a defect in mast cell metabolism. This field is open for investigation.

A recent hypothesis postulated by Khilov (1961) proposes that the most essential features in the etiology and pathogenesis of otosclerosis is a trophic disturbance of central character leading to a change not only in the capsule of the labyrinth, but also in the other parts of the organ of hearing (external and central). The author derives his conclusions from his observations of absence or diminished secretions of earwax by the wax gland in the ear canal which after fenestration of the labyrinth recover their function. He maintains that this finding suggests that in the postoperative period the function of the external ear is restored, and since the trophic functions are controlled by higher portions in the central nervous system, it may be supposed that until the fenestration was performed, there existed not only a local lesion of the labyrinthine capsule, but that this lesion had its counterpart in the central nervous system. He also observed that after fenestration some could hear better not only with the ear which was operated on but also with the ear not operated on. He explained this by stating that before the fenestration the central cortical auditory zone is inhibited, however, the surgical restoration of the sound conduction mechanism causes the auditory stimulus to act more strongly and thereby activates the corresponding part in the cerebral cortex. Khilov's hypothesis was proposed in order to direct research along a new channel, not as a localized entity as it has been considered so far, but with proper regard for the integrity of the organism and the leading role played by the central nervous system.

Conclusion

After reviewing the literature on the etiology of otosclerosis, two things are evident: (1) the etiology is still unknown and (2) the number of possible causes is astounding. A combination of predisposing, local and activating factors is responsible for the development of otosclerosis. To what extent heredity, local irritating factors, systemic disease and endocrine balance play is still unknown; however, it is known that each must be present in order for otosclerosis to develop. Perhaps the reason why none of the many theories as to the etiology of otosclerosis has been accepted is that there has been in the past too great a tendency to attribute otosclerosis to one cause alone. At present otosclerosis falls into the category of diseases such as diabetes, where the pathology and treatment are known but the etiology and thereby prophylaxis still remains a mystery.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.



Abdominal Pain and Vomiting, Dyspnea, Cyanosis and Collapse

Case Presentation

THIS WAS THE SECOND Kansas University Medical Center admission for this 54-year-old white man whose chief complaint was abdominal pain and vomiting that had begun suddenly three days before admission. The pain was in the epigastrium and described as of a "coming and going" or "rolling" character. He vomited a "bitter, green material" several times. The pain had persisted intermittently until the day of admission when he obtained relief from an injection of meperidine given by his local physician. He had had a normal defecation two days before admission, but none since. There was no history of abnormal bowel habits or blood in the feces. He had not been distended. There had been no fever or chilling. His intake of food and water had been poor because of vomiting. Because of the persistence of the pain and vomiting he was referred to KUMC by his local physician.

Four months before this admission he had had a cholecystectomy because of cholecystolithiasis, and had had an uneventful recovery. On that admission he had had a normal upper gastrointestinal series, but there had been x-ray and EKG evidence of pulmonary emphysema. He said that he had done well since his operation except for "gas poisoning" which he got from inhaling fumes while welding. That episode involved a two or three day hospital stay locally. He had not been taking any medications at the time of his admission, although he had intermittently taken an unknown medicine for his emphysema.

The review of systems was negative except for intermittent respiratory difficulty that was usually re-

lieved by the above noted medication. He had, however, lost approximately 20 pounds during the three months before admission.

He was employed as a welder. He had smoked for about 40 years, but quit about one year before. He denied the use of alcohol.

When first examined his temperature was 96.8; pulse rate, 80 and regular; blood pressure, 90/70; and his respiratory rate was 16 per minute. No abnormalities were found in the examination of his head, eyes, ears, nose and throat. The neck was normal. There was increased anterior-posterior diameter of the chest and it was hyperresonant. There were no rales or dullness. No heart murmurs were heard. The cardiac border could not be defined. The abdomen was scaphoid, and a well healed midline scar was present in the abdominal wall. Fibrosis about the scar gave the impression of an underlying mass. There were no palpable organs, tenderness, guarding or rebound. The bowel sounds were hypoactive with rushes. The right testis was atrophic. No hernias were found. The rectal examination was negative except for an enlarged prostate. The extremities were normal. The neurological examination was normal.

The admission white count was 6,610 with 81 per cent neutrophils (76 per cent filamented and 5 per cent non-filamented), 13 per cent lymphocytes, and 6 per cent monocytes. The hemoglobin was 15.5 Gm. per cent; hematocrit, 50 ml per cent; CO_2 , 19.5 mEq L; Na, 139 mEq L; K, 5.3 mEq L; and Cl, 96 mEq L. The next morning the white count was 14,710 with 83 per cent neutrophils (82 per cent filamented and 1 per cent non-filamented), 6 per cent lymphocytes, 8 per cent monocytes, 3 per cent metamyelocytes. The hemoglobin was 14.5 Gm. per cent; hematocrit, 50 ml. per cent; and the serum amylase was 100 units per cent. The total bilirubin was 1.6 mg. per cent; direct bilirubin, 0.7 mg. per cent; alkaline phosphatase, 2.3 millimole units; thymol turbidity, 4 units. Total plasma proteins were 6.15 Gm. per

Edited by Jesse D. Rising, M.D. and Mahlon Delp, M.D. from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third and fourth year classes of students.

cent; globulin, 2.05 Gm. per cent; albumin, 4.10 Gm. per cent; cholesterol, 177 mg. per cent with 58 per cent esters. The BUN was 59.5 mg. per cent. The pH of the urine was 4.5; specific gravity, 1.020; albumin, 1 plus; sugar, negative. There were many hyaline and granular casts, occasional waxy casts, 4-5 pus cells per high power field. Urobilinogen was positive in a dilution of 1:40. The hematest was slightly positive. The VDRL was non-reactive.

The patient was relatively comfortable when he was admitted. His management originally consisted of nasogastric suction (which returned a greenish material) and intravenous fluids. He was given nothing except ice chips by mouth. During the night he complained intermittently of epigastric pain. His abdomen remained soft, and the bowel sounds remained hypoactive. He remained afebrile. Meperidine and atropine were given for the relief of pain.

At 8:30 a.m. on the day following admission he complained of increasing abdominal pain, and the above medications were again given to his apparent relief. He summoned the nurse about one hour later. At that time he was cyanotic and in respiratory distress. No pulse could be found. Emergency measures consisted of oxygen, positive pressure breathing, intracardiac epinephrine and external cardiac massage, but were of no avail.

Dr. Delp (moderator): Are there any questions of Dr. Hendren?

Mr. Jared J. Grantham (student):* What were the symptoms that caused him to seek medical assistance upon the first hospitalization?

Dr. Hendren (resident in surgery): He was having cramping right upper quadrant pain that was aggravated by the ingestion of greasy foods. He also had some vomiting.

Mr. Larry J. Gaughan (student): Did he have a history of jaundice or acholic stools?

Dr. Hendren: I do not recall.

Mr. Vernon H. Shull (student): Did he ever have any urinary tract symptoms?

Dr. Hendren: None were recorded.

Mr. Joseph E. McMullen (student): Did he have a history of hypertension?

Dr. Hendren: Not to my knowledge.

Mr. Grantham: What was the character of the peripheral pulses on the first admission?

Dr. Hendren: I think they were normal.

Mr. Gaughan: I wonder if his weight loss could be better documented?

Dr. Hendren: The weight loss was known purely by history.

Mr. Shull: Is there any history of melena?

Dr. Hendren: No, there was not.

Mr. McMullen: Had he ever had anorexia?

Dr. Hendren: Only during his last admission.

Mr. Grantham: Did he get any relief from vomiting?

Dr. Hendren: Seemingly not.

Mr. Gaughan: Could we have a little better description of his pain?

Dr. Hendren: The pain was in the epigastrium and the periumbilical area. During the night the pain was intermittent. At one time he commented that he would like something to drink in an effort to extinguish the "fire in my belly."

Mr. Shull: Did he ever complain of chest pain?

Dr. Hendren: No, I do not think so.

Mr. McMullen: Do we know what his blood pressure was when he came in for his surgery?

Dr. Hendren: It was 125/90.

Mr. Grantham: What were his dietary habits?

Dr. Hendren: I cannot say.

Mr. Gaughan: Was a gastric analysis done?

Dr. Hendren: Not to my knowledge.

Mr. Gaughan: Can you tell us more about his blood pressure, temperature, and pulse during his last admission?

Dr. Delp: They were not remarkable. He had a normal temperature, and his pulse rate was normal. The blood pressure at the time he was seen in the emergency room was 90/60. It was 90/70 after he was admitted. I see no further recordings of his blood pressure. At no time was it recorded that he had tachycardia.

Mr. Gaughan: Was an EKG done on the last admission?

Dr. Hendren: No.

Mr. Gaughan: Had he ever had a fever?

Dr. Hendren: Not with the present illness.

Mr. Grantham: How active was he during the three days immediately before his admission?

Dr. Hendren: He was ambulatory, and could get about his house with no discomfort.

Mr. Shull: On auscultation of the heart was the pulmonary component of the second sound ever accentuated? Were there ever any abnormal heart sounds?

Dr. Hendren: I did not find any.

Mr. McMullen: Do you have any information about the symptoms he had with the episode of "gas poisoning" that caused him to go to the hospital?

Dr. Hendren: I gathered from talking to him that it was an exacerbation of his emphysema; primarily a difficulty in breathing. It passed spontaneously, and he had no further trouble with it.

Mr. Grantham: Could you give a better descrip-

* Although a student at the time of the conference in January, 1962, he, like the others referred to as students, received the M.D. degree in June, 1962.

tion of the mass that was said to be present in the epigastrium?

Dr. Hendren: As recorded, the mass was felt beneath the scar, and I felt that it was primarily a fibrotic response to his operation. It appeared superficial.

Mr. Gaughan: How frequently had he vomited before coming in here?

Dr. Hendren: I do not know, except that he was hardly able to keep anything down.

Mr. Shull: Were liver function studies done on the first admission?

Dr. Delp: Yes, the serum cholesterol was 285 mg. per cent; cephalin cholesterol flocculation, 1 plus; thymol turbidity, 3; serum bilirubin, 1.7 mg. per cent; alkaline phosphatase, 0.5 millimole units; hemoglobin, 13 Gm. per cent; serum proteins, 6.9 Gm. per cent; albumin, 4.2 Gm. per cent; and globulins, 2.7 Gm. per cent.

Mr. Grantham: Was the common duct explored at the time of surgery?

Dr. Hendren: No, it was not explored. It was palpated, and was reported as not being dilated.

Mr. Gaughan: Were the stomach and the abdominal aorta palpated?

Dr. Hendren: Yes the abdomen was explored at the time of surgery, largely manually, and there was nothing remarkable.

Mr. Shull: Was he examined by anyone just before death?

Dr. Hendren: He was seen on rounds by the attending physicians, and they were not impressed that he was in any discomfort or that there was any impending trouble.

Mr. McMullen: How much meperidine did he receive?

Dr. Delp: We are not sure whether he received one or two doses, but it could not have been very much.

Mr. Grantham: I am still concerned about his weight.

Dr. Delp: He was not cachectic.

Mr. Gaughan: Would you describe the turgor of his skin, tongue and eyeballs?

Dr. Hendren: Not impressively abnormal.

Mr. Shull: Was he thirsty?

Dr. Hendren: No, but he had some fear about taking things because of the vomiting.

Mr. McMullen: What about his urinary output while he was in the hospital?

Dr. Delp: It was reported as 50 ml.

Mr. Grantham: Was this after intravenous fluids had been given?

Dr. Delp: I do not know.

Mr. Gaughan: What intravenous fluids were given?

Dr. Hendren: I am not sure. I think it was a liter of saline and a liter of 5 per cent dextrose.

Dr. Delp: All right, let us see the EKG's.

Electrocardiograms

Mr. Gaughan: This is the EKG taken on his first admission here on June 21, 1961 (*Figure 1*). It shows a normal sinus rhythm, with a rate of approximately 80. The P-R and QRS intervals are approximately normal. There is no striking displacement of the S-T segments. There is a small S-T depression in leads 2 and 3, and an S2 and S3 configuration. Across the precordium there is poor progression of the R waves. This could be compatible with an old anterior myocardial infarction, but a better explanation here is a vertically oriented terminal electrical axis due to his emphysema. In conclusion we feel that this tracing is compatible with long-standing emphysema.

Dr. Delp: Mr. Shull will you present the x-rays?

X-Rays

Mr. Shull: The chest film taken during his first hospitalization shows increased width between the ribs, depressed diaphragm, and hyper-aerated lungs. The heart diameter probably is within normal limits. The aortic knob is tortuous. There are changes in the next film compared to the first one. The heart diameter has increased. The right atrium is enlarged, and the left ventricle is probably enlarged. The lung fields are generally hazier than in the first film. I do not know whether this is significant. The chest film made on his last admission (*Figure 2*) confirms the enlargement of the left ventricle, and the right ventricle is also enlarged. The diaphragms are depressed. These chest films are compatible with emphysema and possible cardiac failure. The upper gastrointestinal series done on the first admission shows the stomach filling fairly well. There are no specific punched-out lesions or filling defects. The duodenal bulb fills well. I interpret this stomach as being normal. The KUB film on the second admission shows a generalized haziness in the upper half of the abdomen. However, gas is present in the intestines. The psoas shadows are not distinct, the liver is not apparent, and the kidneys are not visible. Another KUB film taken on the last admission shows a fluid level in the stomach. The stomach is probably filled with fluid and is dilated which pushed down the intestines, and that is probably why there is no gas in the upper part of the abdomen. I interpret these abdominal films, at least the latter ones, as showing possible upper intestinal obstruction.

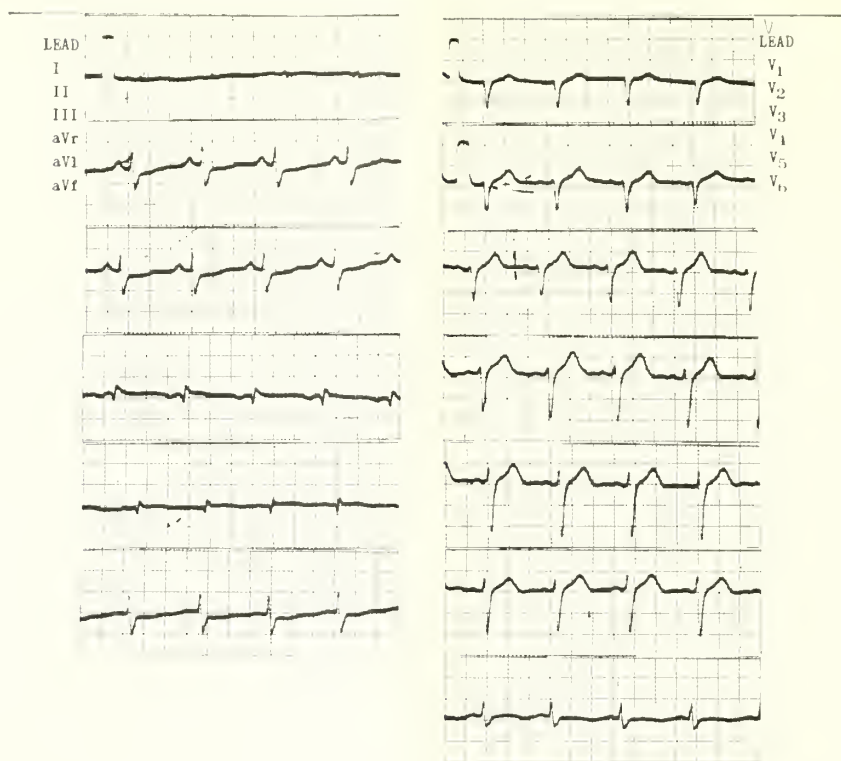


Figure 1. Electrocardiogram taken June 21, 1961.

Dr. Delp: All right, Mr. Grantham, your differential diagnosis and discussion.

Mr. Grantham: Our task today is to clarify the events immediately before and during the last hospitalization of a 54-year-old man who presented with an acute onset of abdominal pain and vomiting of three days' duration and who had sustained a 20-pound weight loss during the last two or three months of his life. His brief hospitalization was characterized by intermittent abdominal pain and vomiting which terminated in a matter of hours with respiratory distress, cyanosis, and cardiovascular collapse.

Of the metabolic disturbances which might present in this fashion we have little evidence to support a diagnosis of either Addison's disease, hypercalcemia, or acute porphyria. This man had a significant azotemia. In the face of dehydration and possible hypotension he could have sustained an acute tubular necrosis of the kidneys. His urinary findings and persistent oliguria in spite of parenteral fluids are highly suggestive of such a process. With a recent history of cholelithiasis and cholecystectomy the possibility of a retained or newly formed common duct stone must be entertained. The history, physical examination, and laboratory findings do not support this diagnosis.

Patients presenting with abdominal pain and vomiting following previous abdominal operations must always be suspected of having an internal hernia or entrapment of a loop of bowel secondary to adhesive bands. We cannot definitely rule out this entity, but on the basis of the location of the previous surgery, atypical physical and the x-ray findings we feel that this diagnosis is unlikely. Nothing supports the diagnosis of gastroenteritis of noxious or infectious etiology in this man. Regional enteritis, appendicitis, subclinical abscess, and acute pyelonephritis are not supported by historical, physical, or laboratory findings. He did not have the characteristic pain of pancreatitis. His amylase was normal, and his abdominal findings and clinical course were not consistent with this diagnosis. This is not the slowly progressive picture that one would expect to see with carcinoma of the pancreas. Acid peptic disease in its many manifestations has to be given consideration. The lack of typical symptoms and this patient's past history in no way eliminate the possibility of peptic ulcer. Obstructive symptoms are usually secondary to chronic scarring and deforming of the duodenum and adjacent pylorus. An upper gastrointestinal series made several months before the patient's last admission disclosed no abnormality in this region. Perforation of a duodenal ulcer is unlikely in the absence of

board-like rigidity, abdominal tenderness, or distention.

Neoplasms of the gastrointestinal tract must be considered in view of the history of 20-pound weight loss in a two to three month period. Was it just fibrosis under the healed incision, or did this patient conceal an occult neoplasm in his abdomen? Statistically, the most likely neoplasm would be carcinoma of the stomach. The patient's age and sex are in favor of this diagnosis. Weight, pain, and anorexia are the most commonly encountered clues. The lack of previous x-ray visualization and the inability to observe or palpate a gastric malignancy at operation on the previous hospitalization does not detract from this diagnosis. The acuteness of the onset of the symptoms is disturbing because the course is usually prolonged, and in only six per cent of the cases is obstruction with vomiting the initial complaint.

Vascular abnormalities offer a further field for speculation. Abdominal aortic aneurysm has been reported frequently to present with symptoms similar to those seen in our patient. It is possible that an abdominal aortic aneurysm could have gone entirely unnoticed at the previous operation. It could have enlarged, and by encroachment on surrounding structures produced mechanical obstruction. If this aneurysm's anatomical location involved the orifice of either the superior mesenteric arteries, the celiac axis or both, there is a good reason to suspect that

the blood supply to the vessels could have been compromised. A pulsating mass was not palpated, and no abdominal bruit was recorded to substantiate this diagnosis. Atheromatous deposits may occur at the take-off of the superior mesenteric artery in the absence of an underlying aneurysm. Thrombosis or hemorrhage into a plaque may result in sudden total or partial occlusion of the vessel. The findings in mesenteric vascular occlusion include a sudden onset of symptoms, varying degrees of shock, intermittent abdominal pain that is sometimes colicky in nature, and vomiting of bile-stained fluid. An indefinite epigastric lump is present in 80 per cent of the cases. Our patient does not satisfy all the classical findings for mesenteric artery thrombosis, but most of his symptoms could be explained on intermittent superior mesenteric artery ischemia with localized areas of bowel infarction.

Not all acute epigastric pain is of intra-abdominal origin. Lobar pneumonia is the classic example of the nature of referred pain to abdominal locations. Infarction of the lower pulmonary segments may also simulate an intra-abdominal crisis. Myocardial infarction may present initially with acute upper abdominal pain, nausea, vomiting, and hypotension. We feel relatively certain that this man did not have lobar pneumonia, but we cannot exclude the possibility that he had a pulmonary embolus or myocardial infarction.

I have discussed the most likely causes of our patient's initial difficulty. There is no unanimity within our group as to the best single diagnosis. I would favor the explanation of his symptoms on the basis of mesenteric artery ischemia and segmental bowel infarction, but I do not believe that this process killed him. Why did he die? He was known to have pulmonary emphysema and episodes of ventilatory decompensation. This disease process may produce parenchymal changes leading to eventual hypoxemia, carbon dioxide retention with chronic respiratory acidosis, hypertension of the lesser circulation, cor pulmonale, and sudden death due to intercurrent infection, heart failure, or pulmonary embolism. For reasons unknown patients with significant pulmonary hypertension and cor pulmonale are more likely to develop occlusions of the right coronary artery. Our patient had none of the physical findings of cor pulmonale or acute pulmonary insufficiency on admission, but his x-rays and EKG's are consistent with a mild degree of pulmonary vascular disease. Of one thing we can be sure: he had a diseased lung that made him a more likely candidate to succumb to insults which might embarrass his pulmonary circulation or ventilatory capacity. This man was an excellent candidate for the development of a pulmonary em-



Figure 2. Chest film made on the patient's last admission (October 4, 1961).

bolism with infarction. He was bedfast and dehydrated. Those are important factors in the genesis of phlebothrombosis. The manner in which he died—acute respiratory distress, cyanosis, and cardiovascular collapse—is commonly seen in acute pulmonary embolization. From another point of view this patient's death is entirely compatible with acute coronary occlusion with myocardial infarction. He was known to have had hypercholesterolemia on one occasion. He had a sustained and significant decrease in blood pressure from his first admission, and his heart size over the previous admission was definitely increased. This is presumptive evidence that he may have had a previous myocardial infarction before his admission and could have sustained an extension of this process causing his sudden death. Unfortunately an EKG was not made, and the serum transaminase concentration was not determined.

Dr. Delp: Thank you, Mr. Grantham. Now let us find out about the agreement or disagreement. Mr. McMullen, what was your diagnosis?

Mr. McMullen: I believe he had several things going on: intestinal angina, myocardial infarction, and pulmonary emphysema.

Dr. Delp: Which would be your first choice?

Mr. McMullen: Myocardial infarction.

Dr. Delp: Mr. Shull?

Mr. Shull: If I had only one choice I would take myocardial infarction, too.

Dr. Delp: Mr. Gaughan?

Mr. Gaughan: Myocardial infarction.

Dr. Delp: All right, if you had a second choice, what would you take, Mr. Gaughan?

Mr. Gaughan: I think my second choice would be intermittent small bowel obstruction complicated by a thromboembolic phenomenon.

Dr. Delp: Mr. Shull?

Mr. Shull: Carcinoma of the stomach with hypercoagulability of the blood and pulmonary embolism. Intestinal angina was what brought him to the hospital.

Dr. Delp: Now, a few other questions. This man was a welder who had been in the hospital about 30 days before his coming here again. What are your comments about his so-called "gas poisoning," McMullen?

Mr. McMullen: I think that the patient probably had a myocardial infarction at that time.

Mr. Shull: I think this exposure irritated his emphysema.

Mr. Gaughan: I think this is just one of those things that happens to welders.

Dr. Delp: All right, Mr. McMullen, what is your explanation for the low urinary output?

Mr. McMullen: I believe that the patient was

probably dehydrated on admission. This would lead to decreased renal flow. He also had a degree of prostatic hypertrophy, and we know nothing about the degree of renal damage from these events.

Mr. Gaughan: I think this is a reflection of dehydration. I further think he may have sustained acute tubular nephrosis in the course of the disease. He may have been hypotensive.

Dr. Delp: What about his BUN of 59 mg. per cent?

Mr. Grantham: In persons who have been vomiting it is not uncommon to see a BUN elevated over 50 mg. per cent. This comes about by superimposed, so-called renal acidosis. This may occur even in persons with normal kidneys.

Dr. Delp: All right now, one final question. What about the rather unusual pain this man had: epigastric pain, "coming and going" pain, "rolling" pain.

Mr. McMullen: This could be produced by intermittent episodes of bowel ischemia.

Mr. Shull: This could be produced by obstruction caused by carcinoma of the stomach.

Mr. Gaughan: Intermittent partial obstruction.

Mr. Shull: An interesting possibility is that there are 20 cases reported of acute myocardial infarction in patients who develop acute hemorrhagic duodenitis along with it, and who presented with almost the same symptoms that this man had. We would expect to see blood in the bowel of people who develop this syndrome, but we can postulate that he had a myocardial infarction and a reflex pyloric spasm, which might account for this.

Dr. Delp: Now, I would like to call on Dr. Berry, Dr. FitzPatrick, Dr. Crockett, and Dr. Friesen.

Dr. Maxwell G. Berry (internist): I would rather go last. The fact that Dr. Delp mentioned Dr. Friesen last makes me believe that we might be dealing with something surgical. This might cause me to reverse one of the seven differential diagnoses which I entertained as being strong possibilities. I think that the diagnosis that was made by the seniors is excellent; that is, the one "this is one of the things that happens to welders." That is really my choice.

The fact that this man's pain was in his abdomen and not listed as being in his chest makes the possibility of a myocardial infarction fall in the range of about two per cent of the reported cases. That makes it kind of uncommon. And if he had a negative EKG as well, than it would make it a very uncommon thing of about two per cent to five per cent possibility and two per cent of five per cent makes less than one per cent—about one tenth of one per cent—and that is too low a percentage for me to bet on in any game of chance. That rule also applies to card games and

two or three other things that I would be glad to tell anybody about that might be interested. I am talking this way because I do not know what was the matter with this patient. Two possibilities entered my mind in this instance. The possibility of an internal hernia which caused an upper intestinal obstruction was attractive, but the electrolyte imbalance and x-rays are not in line with this. The other thing which is a distinct possibility, of course, is pancreatitis. The pain of pancreatitis is steady, but this was a "coming and going" pain which would fit more with an upper intestinal obstruction or the kind of a pain that you would get with an internal hernia. The amylase was negative, and I think that these two things were definitely against its being acute pancreatitis. I have no idea that either one of these possible diagnoses is right, but I mention them just to get on the record.

Dr. Delp: Thank you, Dr. Berry. Dr. FitzPatrick?

Dr. Martin J. FitzPatrick (internist): I was hiding back here because I too do not know what was wrong with this patient. I was intrigued by the protocol, and thought I would come around and learn something without having to pay my way. I think we can be sure that the man had emphysema. I think this welder bit was actually right because of the absence of rales when the man was admitted this time. This would suggest to me that he had not had a serious problem going on there. I am not sure of the nature of the abdominal catastrophe that brought him in. I would agree that it was not pancreatitis. The pain and the physical findings are most consistent with an intermittent small bowel obstruction. The final catastrophic event probably was a major pulmonary embolism.

Dr. Delp: Thank you, Dr. Crockett?

Dr. James E. Crockett (internist): I would agree that the picture is not at all clear. However, I will try to be a little bit more specific and say that I think there are really two possibilities here that we should not discount. One of these is a dissecting aneurysm of the lower thoracic aorta which should give rise to pain in this area, and which possibly would be described by the patient in this fashion. The second is acute myocardial infarction. In spite of Dr. Berry's rather terrifying odds I am going to stick with this and say that I think this was the patient's problem at the time of admission and that this caused his death.

Dr. Delp: Thank you, Dr. Crockett. Dr. Friesen?

Dr. Stanley R. Friesen: Most things have been covered. He was admitted on the surgical service, and I suppose those who saw him in the emergency room and on the service felt that he had a mechanical problem. At least mechanical or a complication of an

operation that he had had prior to that. It seems that one rules out things more than one rules in things in a clinical situation such as this, and it seems to me one could rule out mechanical obstructions quite easily because there was no distention, no hyperactive bowel sounds, his abdomen was scaphoid, and the x-ray showed no obstruction. One could probably rule out all those things that might produce peritoneal irritation, since there was no abdominal tenderness, or rebound. It seems to me that one might rule out most abdominal things by these factors alone, but this is in retrospect. Those who saw him at the time must have thought he had something that the surgeons could relieve. There is one thing that has not been mentioned—that is that occasionally a herniation through the foramen of Morgagni will produce severe onset of pain in the epigastrium (usually without distention), and there will be vomiting with this. This is one thing that quite likely could produce symptoms such as this patient presented. In about half of the instances, however, there is distention. The patient's death was sudden. Sudden death occurs not only in the hospital, but it occurs while one is shoveling snow.

Dr. Delp: Thank you, Dr. Friesen. Dr. Mantz, will you enlighten us?

Pathological Report

Dr. Frank A. Mantz (Pathologist): The body at autopsy was that of a well-developed, well-nourished individual who weighed exactly 135 pounds. There was a noteworthy absence of obesity. The principal findings were confined to the cardiovascular system, the lungs, and the gastrointestinal tract. There was a considerable degree of atherosclerosis involving his aorta and coronary arteries. There was no occlusion or significant narrowing of the orifice or course of the mesenteric artery.

Perhaps the most significant alterations were present within the coronary vessels, which in general showed extensive atheromatous deposition with narrowing of the lumen estimated to range from 50 to 75 per cent throughout. At a point just distal to its origin, the left coronary artery (*Figure 3*) had been reduced to an exceedingly narrow slit. When examined microscopically, this vessel showed evidence of somewhat remote hemorrhage into the plaque although the lumen had not been involved. The hematoma had undergone organization with ingrowth of blood vessels.

The right coronary artery likewise had been occluded at a point approximately 3 cm. from its orifice, and here again was an area of remote hemorrhage manifest by the presence of a dark brown deposit of hemosiderin. The lumen was reduced to that of a

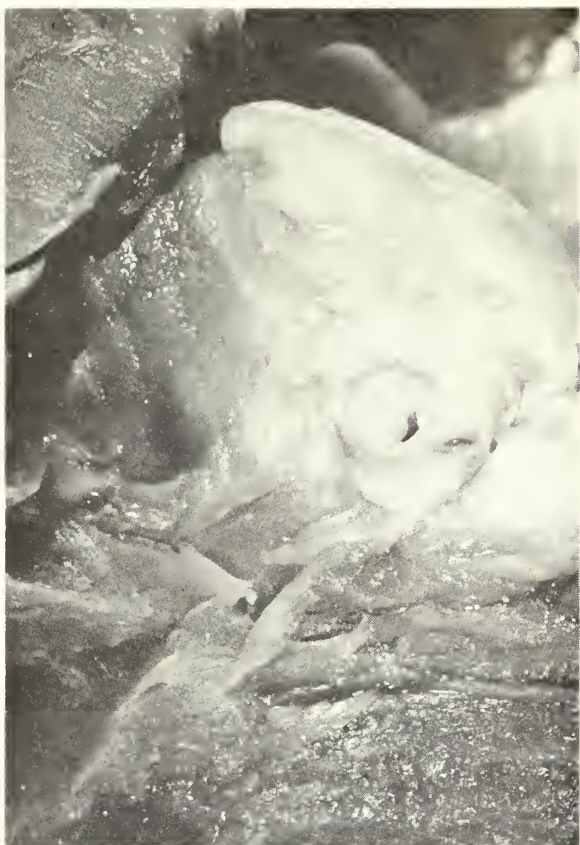


Figure 3. Severe arteriosclerosis of left coronary artery.

pinpoint. Immediately proximal to this area of narrowing there was evidence of extensive hemorrhage into an atherosclerotic plaque which appeared remarkably recent. Only a very narrow, slit-like orifice remained, and within this a small amount of thrombotic material was demonstrated. We would think it highly probable that this occlusion probably represented the terminal syncopal episode nicely detailed in the clinical history.

With this degree of coronary narrowing it is easily appreciated that the individual probably suffered a protracted degree of coronary insufficiency, which was manifest by numerous areas of focal scarring throughout the heart. This actually represents ischemia, although it is usually referred to as myocardial fibrosis. There was, however, within the posterior aspect of the interventricular septum extending upward from apex to base a rather broad zone of infarction measuring approximately 6 x 8 cm. This extended laterally on the posterior wall of the left and right ventricles and was subendocardial in distribution. It was highly variegated in appearance, some areas being dark gray suggesting intense fibrosis, others more yellow-tan suggesting active necrosis. In still other areas there

was marked hyperemia with focal areas of interstitial hemorrhage throughout. Its subendocardial distribution was quite outstanding, and there we noted the presence of recently deposited mural thrombi (Figure 4). The composite picture suggested one lesion which, however, appeared to be a confluence of many lesions of varying age. As a matter of fact, microscopically we found all the changes which one would observe throughout the course of healing of a myocardial infarction from approximately a few days to three months.

I might point out that the heart was hypertrophied, weighing 550 grams. The hypertrophy was that of a rather marked right ventricular preponderance. The ventricle was both hypertrophied and dilated. As the source for this, I think we should look further into the lungs, which were the site of a rather massive degree of emphysema. Likewise, there were many focal areas of atelectasis which probably fits with the observation that the diaphragms were relatively high. Two hundred ml. of fluid was contained in either thoracic chamber. A few emboli were present within the smaller pulmonary vessels. These, however, were unattended by any hemodynamic alteration within the lungs, and since they involved only the smaller vessels we would tend to discount them other than a



Figure 4. Infarction of left ventricle with mural thrombosis.

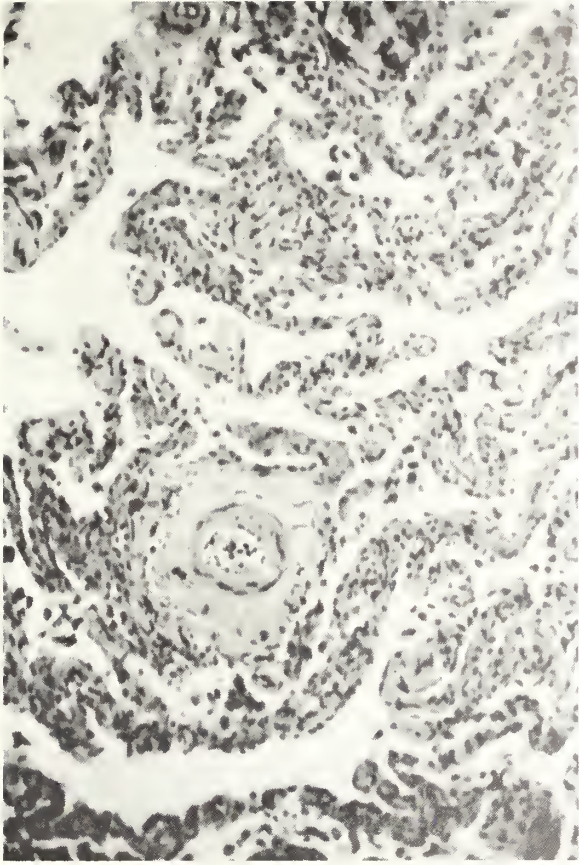


Figure 5. Arteriosclerosis of small pulmonary artery.

possible added increment to those alterations which caused dilatation of the right ventricle. Examination of the lungs at many sites confirmed the presence of rather extensive emphysema with some fibrosis of the walls of the alveolar chambers. That this was a significant lesion I believe was reflected by the appearance of a small pulmonary artery (*Figure 5*) which has undergone considerable sclerosis suggesting significant pulmonary hypertension. Thus one may assume that there was a genuine *cor pulmonale*.

We observed a rather noteworthy lack of changes consistent with cardiac failure within the lungs. They were light and fluffy, weighed only 800 grams, were not significantly hyperemic, and heart failure cells were inconspicuous. We did not know at the time that the individual was a welder, learning this only three days ago. Checking the lungs by special stains, however, did disclose a moderate deposit of iron within the alveolar walls and within some of the alveolar cells permitting us to assume that this individual had acquired the welder's lung or siderosis. This is generally acknowledged as not being particularly significant in producing pulmonary disease unless an admixture of silicosis likewise exists.

Despite the fact that there was little evidence of cardiac failure within the lung, such evidence was found aplenty within the abdominal cavity. The latter contained 1000 ml. of ascitic fluid which was water-clear. The liver (*Figure 6*) in particular showed evidence of severe passive congestion marked by dissociation of architecture. The areas that appear pink represent not the central portions of the lobules but the portal areas. The surrounding zones of yellow-tan represent central necrosis. Microscopic examination confirmed the gross findings and revealed numerous neutrophils within the central necrotic areas.

The spleen likewise was the site of rather extensive congestion. We observed a small infarct of considerable duration which relates to the mural thrombi observed in the infarcted areas of both ventricles.

Perhaps the most dramatic changes were observed within the gastrointestinal tract. Extending throughout, but more particularly in the upper portions, there was an extreme degree of hyperemia associated with edema of the wall and slight luminal dilatation. The lumen of the stomach contained 200 ml. of changed blood, and moderate amounts of dark fluid blood



Figure 6. Severe chronic passive congestion of the liver.

were observed within the jejunum and ileum. The esophagus exhibited a profound degree of hyperemia with extravasation of blood within the mucous membrane. Within the submucosa of the stomach hyperemia was an exceedingly prominent feature extending outward into the mucous membrane, as shown here manifest by the intense engorgement of these tiny capillaries. Similar changes were noted throughout the intestine, chiefly the upper portion of the ileum, where hyperemia was evident but was somewhat variable in degree. When examined microscopically (*Figure 7*) nothing was apparent except

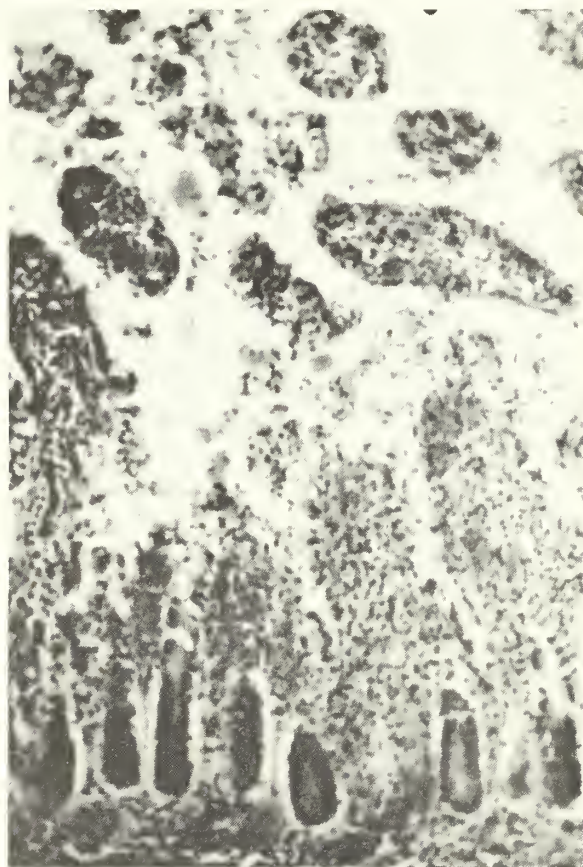


Figure 7. Severe passive congestion of the ileum.

the exceedingly severe degree of hyperemia involving these end-vessels of the mucous membrane, and associated possibly with early necrosis.

These alterations are the ones to which Mr. Grantham referred. This is acute passive congestion of the intestinal tract predisposing to hemorrhagic enterocolitis, and also predisposing to the type of nonbacterial pseudomembranous enterocolitis of which we were aware long before the antibiotic era.

To summarize, I am convinced the basic disease

process is that of arteriosclerotic cardiovascular disease producing a singular degree of coronary insufficiency with myocardial fibrosis. Remote hemorrhages into atherosclerotic plaques apparently produced sufficient narrowing of vessels to permit a progressive type of myocardial infarction extending from the posterior portion of the interventricular septum over the posterior aspects of both ventricles. I believe that ultimately cardiac decompensation occurred, and that this was modified by a significant degree of pulmonary disease in the form of emphysema, complicated by pulmonary hypertension, accounting for the fact that cardiac failure was predominantly right-sided. This resulted in passive congestion throughout the abdominal organs and more particularly throughout the intestinal tract producing the peculiar type of symptoms which we have observed.

Dr. Delp: Dr. Mantz, do you think that this process you described in the heart could have been going for three or four years?

Dr. Mantz: I could not say no, in light of the focal areas of fibrosis. However, I do not believe that the areas of discrete infarction existed longer than three months.

Dr. Delp: Thank you. Dr. Crockett, do you think that this man's symptoms of epigastric pain and discomfort going on over three or four years could have always been due to coronary insufficiency?

Dr. Crockett: I think they could have been. Of course there is no way to be sure of this, but I think it is a possibility.

Dr. Delp: Do you think this man could have had a silent myocardial infarction at the time he was in the hospital previously?

Dr. Crockett: Well, the EKG at that time was, in my opinion, distinctly abnormal. There were some rather definite changes in the S-T segment. This is not the type of change that we would ordinarily associate with subendocardial infarction. In all honesty we would call these nonspecific changes, but they are the type which are seen with ischemia.

Dr. Delp: There is one final comment that I would like to make, and it has to do with the remarks of Mr. Grantham concerning this peculiar kind of pain which is occasionally seen in patients with myocardial infarction. Unless we are alert and attempt to analyze it, we may often find it extremely puzzling, because it does suggest involvement of something below the diaphragm. Most certainly it probably is the most spurious source of evidence, but nevertheless it does occasionally occur as a pretty characteristic picture of myocardial infarction; and I have learned about this through bitter experience.

(Continued on page 266)

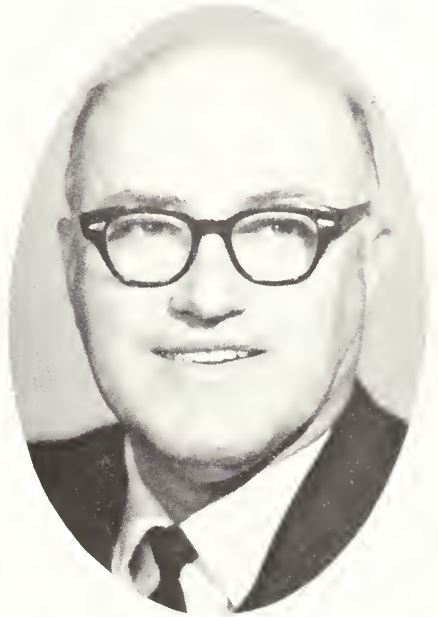
The President's Message

DEAR DOCTOR:

This being a legislative year we anticipate more than the usual number of problems. It will be necessary for us to call on you for assistance perhaps on very short notice. Our success will depend on your response.

We shall continue to work for improvements in Kerr-Mills to meet the needs of the aged in Kansas and for improvements in the regular Welfare categories. I know it has only been the statewide support of the doctors in Kansas that has enabled us to progress to this point.

Believing that the success of the Society depends on its committees and since the response to our letter was so great, we are enlarging the committees so everyone with a special interest may have the opportunity to serve.



Sincerely,

John C. Mitchell, Jr.

President



President's Commission on Narcotics

A short time ago the President's Commission on Narcotics and Drug Abuse made public 25 recommendations to change the regulation and control of narcotics, to more clearly define the legitimate use of narcotics, and to provide an improved system for the detection and the rehabilitation of addicts. Among the recommendations are the following:

—That a citizens' advisory committee and a special assistant for narcotic and drug abuse work closely together, directly through the White House, to provide continuous advice and assistance on this subject, and that the Federal Council for Science and Technology together with the National Institute of Mental Health also work on this problem.

—That the Department of Health, Education and Welfare establish a national reporting system on a cooperative basis with federal, state, municipal and private agencies participating.

—That the functions of the Bureau of Narcotics relating to the investigation of the illicit manufacture, sale or other distribution, or possession of narcotic drugs and marihuana be transferred from the Department of the Treasury to the Department of Justice.

—That the responsibility for the investigation of the illicit traffic in dangerous drugs be transferred from H.E.W. to the Department of Justice.

—That the functions of the Bureau of Narcotics relating to the regulation of the legitimate importation, exportation, manufacture, sale and other transfer of narcotic drugs and marihuana be transferred from the Department of the Treasury to H.E.W. Narcotic drugs would be regulated under the power to regulate interstate and foreign commerce, not under the tax power.

—That a unit be established within H.E.W. to

determine the safety and efficacy of and to regulate all narcotic and dangerous drugs capable of producing severe psychotoxic effects which can lead to criminal or lawless behavior when abused.

—That the penalty provisions of the federal narcotics and marihuana laws which now prescribe mandatory minimum sentences and prohibit probation or parole be amended to fit the gravity of the particular offense so as to provide a greater incentive for rehabilitation.

—That all non-narcotic drugs capable of producing serious psychotoxic effects when abused be brought under strict control by federal statute.

—That federal regulations be amended to reflect the general principle that the definition of legitimate medical use of narcotic drugs and legitimate medical treatment of a narcotic addict are primarily to be determined by the medical profession.

—That the Federal government encourage and increase assistance to states, municipalities and private nonprofit organizations for the establishment of broad treatment and rehabilitation programs, and for the construction of non-hospital treatment centers to care for drug abusers at the local level.

Socialism

A story is told of a happy bird who sang from the top of a tree and occasionally flew down to pick up a worm. One day a fisherman came by and offered to give the bird a worm in exchange for a feather. The price seemed cheap, so the bird accepted. This

(Continued on page 266)



Blue Shield

Nationwide Survey of Blue Shield Performance To Be Conducted This Month

How well are Blue Shield allowances meeting physicians' charges? Does local Blue Shield performance compare favorably to that of Plans in other states?

These are questions that arise at nearly every meeting where physicians and Blue Shield staffs sit down to discuss the adequacy of fee schedules. Both doctors and Plan management wonder whether insights into methods of directing efforts toward more realistic schedules and better policy determinations might be more effectively realized if there were a factual informative base concerning performance on a national scale which could be correlated with local accomplishments. Such reference material would serve as a valuable guide in program development and improvement.

To date no such data have been available . . . but soon will be.

Under the sponsorship of the National Association of Blue Shield Plans—an interstate coordinating body in which all 71 local Blue Shield organizations are members, a survey aimed at securing this information is being conducted this spring. Kansas Blue Shield will take part in the survey and seeks the cooperation of the state's physicians in the necessary accumulation of data. During the latter part of May doctors will be asked to assist in measuring local Plan performance by completing brief questionnaires on selected cases on which Blue Shield payments were received.

Because of the technical and administrative problems entailed in evaluating the entire scope of Blue Shield benefits in a single project, the present survey

is limited to a sample of physician services in the areas of surgery, maternity, anesthesia, and medical care. It is tentatively planned that a subsequent study will evaluate radiology, diagnostic and pathological services, assistant surgery, consultations, and other practice excluded in the initial sampling.

Questionnaires will consist of short answer items, a single query requiring little more than a minute in completion. Since the survey will be based upon random sampling of various categories of cases, the number of questionnaires received by an individual physician might range from seven or eight to none at all. It is not anticipated that more than 10-15 minutes of any physician's time will be involved in assistance with the project, and it is hoped that the potential value to be realized within the data yielded will encourage a high percentage of participation from those contacted.

There will be two types of information that physicians will be asked to furnish on questionnaires:

1. Inquiries about the specific case for which services were recently rendered and payment received—

—Was Blue Shield payment accepted as payment in full? If not, what was that total charge for the service?

—If there was a difference between the Blue Shield payment and the total charge, what factors were involved in the balance?

2. Questions about the physician himself—

—How many years has the physician been engaged in private practice?

What is the nature (specialty) of the physician's practice?

Neither doctors nor patients will be identified in statistical tabulations derived. All replies are confidential and responses from physicians will not be used for any purpose other than the evaluation of the Blue Shield payment as related to the professional charge to the patient.

When results from all Plans have been tabulated, reports will be prepared showing nationwide performance. Here are the profiles of comparison that will result:

1. *Total Payments Compared to Total Charges* and the per cent of claims which have received given percentiles of coverage ranging from 100 per cent, 75 to 99 per cent, 50 to 74 per cent, through less than 50 per cent coverage.

2. *Coverage by Type of Service: Surgery, Maternity, Anesthesia, and Medical* accompanied by the same percentiles of coverage showing per cent of total claims included as explained above.

3. *Amount of the Physician's Bill Compared to Blue Shield Payment*, with percentile breakdowns.

4. *Coverage According to Physician's Years in Practice and Specialty*, also with percentile tabulations.

5. *Performance by Subscriber's Service Benefit Status and Physician's Blue Shield Participation Status*.

6. *Coverage by Type of Membership* (Group or Non-group).

It is expected that similar statistical evaluations of a local nature will be developed by each Blue Shield Plan. In so doing, the individual Plan will be in possession of comparative data by which its relative performance can be gauged.

The significance of this project cannot be over-emphasized. For the first time both national and local Blue Shield policy deliberations can benefit from the existence of reliable information related to performance. Implications to Blue Shield progress in program development are considerable if valid results can be obtained.

However, validity of results will rest entirely in the hands of the medical profession of each Blue Shield Plan Area. Only through a high return from those surveyed can meaningful data be secured. For this reason, Blue Shield urges all physicians receiving questionnaires to cooperate in this effort. If questions arise in respect to specific cases surveyed, or in relation to further clarification of motives underlying questions asked, it is recommended that the Physicians Relations Department of Kansas Blue Shield be contacted.

Additional communications regarding the survey are being distributed through local societies and directly to individual physicians.

Editorial Comment

(Continued from page 264)

happened every day until one day the bird discovered he could no longer fly.

The question is unanswered in the minds of some Americans as to how much can be given away of free enterprise and individual liberty, one feather at a time, before America is socialistic. At the height of Adolph Hitler's control of Germany, the government took 45 per cent of the national earnings. In the United States today the Federal government has half of the profits of enterprise.

From various sources, including the United States Chamber of Commerce, some frightening statistics may be obtained. For example, the Defense Department alone has property and equipment valued at 171 billion dollars. These are increased at the rate of six billion annually.

The cost of the Federal government is at this time over a half million dollars a minute; 5.3 million Americans are on the Federal payroll. This is one out of every 13 working people.

The Federal government owns more than 400,000 buildings and 800 million acres of land—a third of the entire nation. It is stated that in Alaska less than three per cent of the land is privately owned. The Atomic Energy Commission buys a thousand carloads of coal every day and is the largest consumer of coal, electricity and water.

Many other items could be added. If the people of America continue to give one feather every day how long will it be before the free enterprise system, of which America has been so justly proud, is lost?

C.P.C.

(Continued from page 262)

Primary Diagnoses

Moderate atherosclerosis of aorta, and advanced atherosclerosis of the coronary arteries.

Remote hemorrhage into atherosclerotic plaques of right and left coronary arteries.

Recent hemorrhage into plaque of right coronary artery with recent thrombotic occlusion.

Progressive myocardial infarction of the posterior portion of interventricular septum with extension to posterior wall of right and left ventricles of heart.

Acute passive congestion of the esophagus, stomach and small intestine with moderate dilatation and altered blood in lumen.



Personalities—IN KANSAS MEDICINE

Patricia E. Schloesser, Topeka, director of the Division of Maternal and Child Health of the Kansas Department of Health, was elected chairman of the Kansas Co-ordinating Council for the Blind at a meeting held in Topeka in January.

Several Society members have recently received reappointments to committees of the A.M.A. **George F. Gsell**, Wichita, has been reappointed to the Committee on Rating of Mental and Physician Impairment; **C. H. Benage**, Pittsburg, to the Committee on Nursing; and **Henry S. Blake**, Topeka, to the Committee on the Cost of Medical Care.

A Sports Injury Conference was held in April at the University Center, University of Missouri at Kansas City. **Leonard F. Peltier**, **Charles E. Brackett**, and **Donald L. Rose**, all members of the staff at the University of Kansas Medical Center, participated in the conference.

Wendell Nickell, Topeka, spoke on blood loss determination at the opening session of the first district meeting of the Kansas State Nurses Association held in Topeka in April.

A free diagnostic clinic for crippled children of Republic County and the surrounding territory was held in April at Belleville. **Spencer C. McCrae**, Salina, and **G. Bernard Joyce**, Topeka, conducted the clinic.

The Butler County Mental Health Association sponsored a Worry Clinic in El Dorado in March. Participating in the clinic were **H. G. Whittington**, Lawrence, **G. E. Kassebaum**, and **J. Luis Iberria**, both of El Dorado.

Donald Greaves, Kansas City, spoke on "Community Psychiatry: New Diseases for New Cures" at a meeting of the Wyandotte County Guidance Center in March. Dr. Greaves is head of the Psychiatry Department at K.U.M.C.

Homer L. Hiebert, Topeka, was elected president of the Kansas Tuberculosis and Health Association at the annual meeting held in Topeka in April. **Charles Pokorny**, Halstead, is the new secretary of the association. **Lloyd N. Coale**, Kansas City, and **Thomas F. Taylor**, Phillipsburg, were elected to the board of directors, and **R. I. Canuteson**, Lawrence, Dr. Taylor, and **Frank A. Trump**, Ottawa, were chosen to serve on the executive committee.

Nellie G. Walker, director of the City-County Health Department of Kansas City, Kansas, attended the Immunization Conference of Public Health Officers held in Denver in March. This was the first session under the act passed by Congress to promote immunization.

Daniel L. Azarnoff, assistant professor of medicine at K.U.M.C., will direct a clinical pharmacology training program at the Medical Center. The program is being established with a five-year, \$100,000 grant from the Burroughs Wellcome fund.

The Topeka Regional Science Fair honored **Homer L. Hiebert** with the presentation of a diamond-adorned, gold plaque at the annual awards ceremony in March. The presentation was made by **David E. Gray**, Topeka, who stated that it was through the efforts of Dr. Hiebert that the Topeka Regional Science Fair was founded nine years ago.

Maternal Mortality Report

This 20-year-old female, gravida 5, para 4, died in a well equipped hospital on the fourth day after the spontaneous delivery of a two-pound-four-ounce stillborn fetus. The death certificate stated the cause of death as "irreversible shock due to post partum hemorrhage and atonic uterus."

For sociologic reasons this patient had no prenatal care and was first seen by a physician during this pregnancy when she was brought into the hospital critically ill. Her last menstrual period had occurred six months previously. She had had chills and fever for a week and her membranes had ruptured spontaneously several hours before admission. On admission her temperature was 104 degrees, her pulse 104 and blood pressure 120/70. She was discharging a greenish fluid from the vagina. Spontaneous delivery of a dead fetus occurred several hours after admission. Manual removal of the placenta was done when spontaneous separation of the placenta failed to occur. Bleeding was considerable on the delivery table and became profuse 15 minutes later. Intravenous fluids, dextran and blood, were started almost immediately. The uterus was packed but bleeding continued. Consultation was called and a decision was made to do a hysterectomy. Sub-total hysterectomy was done on the second day, during which time four units of blood were given. Nothing remarkable was found in the uterus nor was there any sign of rupture. Following surgery it was noted that the dressings were saturated with bright red blood, and bleeding continued throughout the afternoon and night. Her fever remained high. Antibiotics, fluids, blood, intravenous levophed and other supportive measures were used. In all, eleven pints of blood were given. The postoperative course was downward and the patient expired on the fourth day.

Committee opinion:

In reviewing this case the committee felt that two principal factors contributed to this patient's death:

1. Patient's neglect for not having prenatal care and for not seeking help sooner when she became ill.
2. Probable afibrinogenemia which caused the uncontrolled prolonged bleeding.

Although no clot retraction tests were carried out or any observations made on the coagulability of the blood coming from the uterus after delivery of the placenta, the continued oozing of red blood from the uterus and from the wound following surgery suggests the probability of interference with the clotting mechanism. The delivery of a stillborn fetus should have alerted the physician to the possibility of afibrinogenemia and the subsequent course confirmed it. Had the condition been suspected and substantiated by appropriate tests the administration of an adequate amount of fibrinogen (4 grams or more) along with blood replacement would have corrected the coagulability defect and stopped the bleeding.

The committee considered the death obstetrical and preventable.



Book REVIEWS

ATHLETIC INJURIES by Lynn O. Litton, M.D. and Leonard F. Peltier, M.D. Little, Brown and Company, Boston, 1963. \$7.50.

This book of 222 pages is filled with appropriate information about the care of injuries incurred in sports—principally involving students from elementary school through college. Classification is by areas, and this simplifies the use of the book, as all the injuries involving one area are discussed in the same section.

Descriptions of specific injuries are brief, yet contain enough information to be a good guide to recognition and proper management of most of them. The book does not give detailed descriptions of complicated procedures or of operative techniques, but it tells when these procedures are advisable, and other references could be consulted if necessary. Much more useful is the presentation of the *principles* of management, and the specific simple measures that are effective for the uncomplicated and common injuries of contact sports.

Another feature that is most desirable is the determination that an athlete should not be permitted to return to competition because of his injuries—as when he has had “two significant episodes of head injury,” or “more than two injuries of the kidney with gross hematuria,” or following any injury about the knee, “until there is no measurable quadriceps atrophy.” Such precautions should help to avoid repeated injuries with attendant risk of permanent disability to these eager young people.

I liked this book. It is not so comprehensive as to be overwhelming, yet contains a lot of practical, useful information. The illustrations (line-drawings) are excellent, and add clarity to the text descriptions. The book justifies a place on the shelf of any practitioner treating this type of injury.—*O.R.C.*

PHYSICAL DIAGNOSIS by John A. Prior, M.D. and Jack S. Silberstein, M.D. C. V. Mosby Company, St. Louis, 1963. 455 pages illustrated. \$8.50.

Doctors Prior and Silberstein have written a very good book on physical diagnosis, stressing the importance of accurate history-taking and attempting to inculcate in their students a strict method for discipline in physical examination. I commend it highly, but my nostalgia begins to show. I can't help but recall Dr. Major's book on physical diagnosis with his many references to historical medicine and free use of eponyms (horrid word). All this served, for me, at least, to identify myself with the great physicians of the past, so the present work seems pale indeed compared to the more flamboyant style of my old preceptor, but I suspect that the current neophytes will learn their method better by using this book.—*R.G.*

For some strange reason most people feel deeply affronted when their names appear incorrectly spelled in print.—*Burton Rascoe*

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

B. John Ashley, Jr., M.D.
1616 West 8th Street
Topeka, Kansas

James A. Barnard, M.D.
118 East Laurel
Garden City, Kansas

Cecil R. Chamberlin, M.D.
3617 West 6th Street
Topeka, Kansas

Robert C. Goering, M.D.
St. Joseph Hospital
Wichita, Kansas

Donald D. Hobbs, M.D.
306 Medical Arts Bldg.,
East
Topeka, Kansas

Jack L. Ross, M.D.
3617 West 6th Street
Topeka, Kansas

W. E. Schlotterback, M.D.
102 South Center
Mankato, Kansas

Russell Wilder, M.D.
3617 West 6th Street
Topeka, Kansas

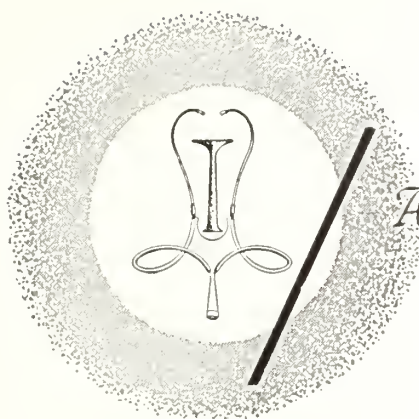


Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Bailey, D. A. The infected hand. Hoeber, 1963.
- Barker, R. G., ed. The stream of behavior . . . N. Y., Appleton-Century-Crofts, 1963.
- Burdette, W. J., ed. Methodology in basic genetics. Holden-Day, 1963.
- California, University of, at Los Angeles. Child Amputee Prosthetics Project. The limb-deficient child. Edited by Berton Blakeslee. Univ. California, 1963.
- Cockburn, Aidan. The evolution and eradication of infectious diseases. Johns Hopkins, 1963.
- Conference on "Fundamentals of Vascular Grafting," Downstate Medical Center, N. Y., 1962. McGraw-Hill, 1963.
- Dornette, W. H. L. Anatomy for the anesthesiologist; a stereoscopic atlas. Thomas, 1963.
- Dreisbach, R. H. Handbook of poisoning . . . 4th ed. Lange, 1963.
- Ferguson, A. B. Orthopedic surgery in infancy and childhood. 2d ed. Williams, 1963.
- Fois, Alberto. Clinical electroencephalography in epilepsy and related conditions in children. Thomas, 1963.
- Freeman, H. E. and Simmons, O. G. The mental patient comes home. Wiley, 1963.
- Gillespie, N. A. Endotracheal anesthesia. 3d ed. Univ. Wisconsin, 1963.
- Gilmer, W. S., Higley, G. B. and Kilgore, W. E. Atlas of bone tumors, including tumorlike lesions. Mosby, 1963.
- Glenn, Frank. Atlas of biliary tract surgery. Macmillan, 1963.
- Gray, L. A. Vaginal hysterectomy . . . 2d ed. Thomas, 1963.
- Harms, Ernest, ed. Somatic and psychiatric aspects of childhood allergies. Macmillan, 1963.
- Hull, T. G., ed. Diseases transmitted from animals to man. 5th ed. Thomas, 1963.
- International Congress of Biochemistry. 5th, Moscow, 1961. Proceedings. Macmillan, 1963. 8v.
- International Society of Hematology. Proceedings of the International Congress, 9th, 1962. Grune, 1963.
- Keith, H. M. Convulsive disorders in children, with reference to treatment with ketogenic diet. Little, 1963.
- Kleitman, Nathaniel. Sleep and wakefulness. Rev. ed. Univ. Chicago, 1963.
- Kline, M. V., ed. Clinical correlations of experimental hypnosis. Thomas, 1963.
- Luria, A. R. Restoration of function after brain injury. Pergamon, 1963.
- Master, A. M. and others. The electrocardiogram and chest x-ray in diseases of the heart. Lea, 1963.
- Morrell, R. M. Thrombophlebitis . . . Grune, 1963.
- Perspectives in virology, a symposium. v.3, 1962. Hoeber, 1963.
- Reubi, F. C. Clearance tests in clinical medicine. Thomas, 1963.
- Rhoads, J. E., and Howard, J. M. The chemistry of trauma. Thomas, 1963.
- Sandler, Maurice and Bourne, G. H., eds. Atherosclerosis and its origin. Academic, 1963.
- Sawyer, J. R. Nursing care of patients with urologic diseases. Mosby, 1963.
- Siegal, L. J. Forensic medicine . . . Grune, 1963.
- Society of Biological Psychiatry. Recent advances in biological psychiatry, v.5, 1963. Plenum, 1963.
- Southworth, Hamilton and Hofmann, F. G., eds. Columbia-Presbyterian therapeutic talks. Macmillan, 1963.
- Staton, T. F. Dynamics of adolescent adjustment. Macmillan, 1963.
- Steinberg, M. E. Gastric surgery; errors, safeguards, and management of malfunction syndromes. Appleton-Century-Crofts, 1963.
- Van Itallie, P. H. How to live with a hearing handicap. Eriksson, 1963.
- Wallace, Bruce and Dobzhansky, Th. Radiation, genes and man; biological aspects of radiation hazards. Holt, 1963.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

MAY

- May 22 Symposium on Clinical Aspects of Acute Leukemia, sponsored by the American Cancer Society and National Cancer Institute. New York Hilton Hotel, New York City. Chairman: Sidney Farber, M.D., Harvard Medical School.

JUNE

- June 1-5 Medical Library Association, San Francisco. Exec. Sec.: Mrs. Helen B. Schmidt, 919 N. Michigan, Chicago 11.
- June 18-22 American College of Chest Physicians, San Francisco. Exec. Dir.: Murray Kornfeld, 112 E. Chestnut, Chicago 11.
- June 18-19 American Pediatric Society, San Francisco. Write: C. M. Riley, M.D., 2800 E. Cedar Ave., Denver 9.
- June 21-25 American Medical Association, San Francisco. Exec. Vice Pres.: F. J. L. Blasingame, M.D., 535 N. Dearborn, Chicago 60610.

JULY

- July 5-10 American Physical Therapy Association, Denver. Write: Helen J. Hislop, Ph.D., 1790 Broadway, New York 19.
- July 10-11 Rocky Mountain Cancer Conference, Denver. Write: N. Paul Isbell, M.D., 1809 E. 18th Ave., Denver 80218.

POSTGRADUATE COURSES

American College of Physicians postgraduate courses:

- May 25-29 *Medical Care of the Adolescent*, Boston, Mass.

- June 8-12 *Recent Progress in Endocrinology*, Seattle.

- June 1-5 *Recent Advances in Clinical Nutrition*, Boston, Mass.

Registration forms and requests for information on the above courses should be directed to: Edward C. Rosenow, Jr., M.D., Exec. Dir., The American College of Physicians, 4200 Pine Street, Philadelphia 4.

University of Kansas School of Medicine postgraduate courses:

- June 8-20 *Histochemistry*

For information on the above courses, contact The Department of Postgraduate Medical Education, University of Kansas School of Medicine, Rainbow Boulevard at 39th Street, Kansas City, Kansas.

University of Colorado postgraduate courses:

- June 17-19 *Arthritis and Rheumatic Diseases*

- July 6-9 *Ophthalmology*

- July 20-25 *10th Annual General Practice Review*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

University of Missouri School of Medicine postgraduate courses:

- May 20-21 *Clinical Advances in Medicine and Pediatrics*

For additional information and reservations write: Gail Bank, Exec. Director, Postgraduate Medical Education, M-176, Univ. of Missouri Medical Center, Columbia, Mo.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in January, 1964 and 1963

<i>Diseases</i>	<i>1964 January</i>	<i>1963 January</i>	<i>January, 5-Year Median, 1960-1964</i>
Amebiasis	1	2	2
Aseptic meningitis	1	—	1
Brucellosis	—	—	2
Cancer	306	294	306
Diphtheria	2	—	—
Encephalitis, infectious	2	1	2
Gonorrhea	277	266	243
Hepatitis, infectious	66	27	66
Meningitis, meningococcal	1	—	1
Pertussis	2	16	4
Poliomyelitis	—	—	—
Rheumatic fever	1	—	—
Salmonellosis	10	14	7
Scarlet fever	15	44	70
Shigellosis	38	9	9
Streptococcal infections	173	151	173
Syphilis	85	84	103
Tinea capitis	8	12	12
Tuberculosis	20	30	20
Tularemia	—	1	1
Typhoid fever	—	—	—

SMALLPOX CONTROL*

The first instance of a successful prophylaxis of a virus disease, smallpox, by a synthetic chemical agent was reported recently by Bauer et al. (1) (2).

N Methyl Isatin Beta Thiosemicarbazone was shown to be a very effective means of protecting smallpox contacts who were never vaccinated. In contacts who have had primary vaccination in the past, MIBT was more effective than revaccination in suppressing contact cases. This compound was also effective when the contact was not detected in sufficient time for successful revaccination to offer any protection.

* NBCo notes, Vol. 9, No. 5; Nutritional Biochemicals Corporation, Cleveland 28, Ohio. (1) D. J. Bauer, L. St. Vincent, C. H. Kempe, A. W. Downie. *Lancet*, II, 494 (1963). (2) *Lancet*, II, 501 (1963). (3) C. H. Kempe, C. Bowles, G. Meiklejohn, T. O. Berge, L. St. Vincent, B. V. Sundara Babu, S. Govindarajan, N. R. Ratnakannan, A. W. Downie, V. R. Murthy, *Bull. W'ld. Hlth. Org.* (1961) 25, 41.

In the cases cited, treatment of the contacts was begun one day after the admission of the patient. They were observed for 16 days. During this time, only three mild cases of smallpox occurred among 1,101 treated contacts. However, among a control group of 1,126 untreated contacts, 78 cases of smallpox and 12 deaths resulted.

N Methyl Isatin Beta Thiosemicarbazone exerted its prophylactic effect regardless of the vaccination status of the contacts. It was more effective than vaccination or revaccination in protecting persons who had been in contact with the disease. MIBT gave better results than those obtained with antivaccinal gamma globulin (3). N Methyl Isatin Beta Thiosemicarbazone offers these advantages over gamma globulin in that it can be made readily available. In addition, it may be given orally, thus the administration to large groups is considerably simplified.

—Communicable Disease Summary
Oregon State Board of Health



JAMES G. HUGHBANKS, M.D.

James G. Hughbanks, Independence physician since 1928, died on March 10, 1964, at the Mercy Hospital in that city. He was 67 years old.

He was born at Cherryvale, Kansas, on June 5, 1897. He received his medical degree from St. Louis University School of Medicine in 1925. Dr. Hughbanks was formerly chief of staff at Mercy Hospital. He had been a member of the advisory board to the chief surgeon of the Missouri Pacific Railroad Company, served on the Kansas Crippled Children's Commission, and had been a member-at-large of the executive board of SeKan Area Council of Boy Scouts of America.

His widow and mother survive.

CLINTON R. LYTLE, M.D.

Clinton R. Lytle, McPherson, died on March 20, 1964, at the McPherson Hospital. He was 91 years old and had been a physician in McPherson for 52 years.

Dr. Lytle was born May 3, 1872, at Meadville, Pennsylvania. He attended Ensworth Medical College, St. Joseph, Missouri, and received his degree in medicine from that school in 1908. He began his practice in Durham, Kansas, in 1908, and after practicing there for four years, moved to McPherson. He was a member of the Congregational church.

Survivors are his wife, a daughter and a son.

GUY E. MARTIN, M.D.

Guy E. Martin, 82, Concordia, died on March 31, 1964, at St. Joseph's Hospital. He had been a practicing physician for 57 years.

Dr. Martin was born at Cedarville, Kansas, on February 16, 1882. He attended Creighton University in Omaha, Nebraska, and received his medical degree in 1906. He began his medical career near Pratt and in 1926 moved to Concordia, where he continued to practice until his death. He was a member of the Medical staff of St. Joseph's Hospital, the Methodist church and a veteran of World War I.

A son survives Dr. Martin.

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Esophageal Obstruction

The Use of an Endoscopically Inserted Tube in the Care of Esophageal Carcinoma

J. M. ZIMMERMAN, M.D., T. C. KING, M.D., *Kansas City, Kansas, and*
J. R. CANTRELL, M.D., *Seattle, Washington**

THE PALLIATION of patients with incurable esophageal carcinoma presents a particular challenge. Death in many of these patients is a consequence on the one hand of malnutrition secondary to esophageal obstruction and on the other of pneumonia secondary to the aspiration of saliva and ingested food. It has been the experience of most physicians dealing with patients with advanced esophageal malignancy that the simple method of therapy such as gastrostomy, jejunostomy and bougienage have provided poor palliation with little added either to the patient's comfort or life span. Radiation therapy is not infrequently hazardous in these patients because of the rather severe systemic reactions incident to it and because the inflammation and edema associated with it frequently temporarily aggravate the esophageal obstruction. One is hesitant to employ the more complicated surgical techniques of resection and reconstruction with their significant morbidity and mortality in those situations where there is little or no possibility of cure.

This has led us to an interest in the use of endoscopically inserted intraluminal tubes as an ad-

junct to other forms of therapy for esophageal malignancy. For many years a number of different types of intraluminal tubes have been advocated by

Our experience suggests that the endoscopic insertion of intraluminal tubes provides a relatively simple and reasonably safe method of dealing with some of the problems which arise in the management of patients with esophageal carcinoma. Such tubes would appear to be of particular use in handling the problems of obstruction and regurgitation in patients with incurable tumors, but may also be helpful in preparing severely debilitated patients with esophageal carcinoma to withstand the rigors of operation and radiation therapy.

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various writers,⁵⁻⁷ some inserted endoscopically and others via esophagotomy at the time of thoracotomy. These are not to be confused with the various types of synthetic tubes utilized for esophageal replacement as proposed by Berman³ and others.⁴ We have

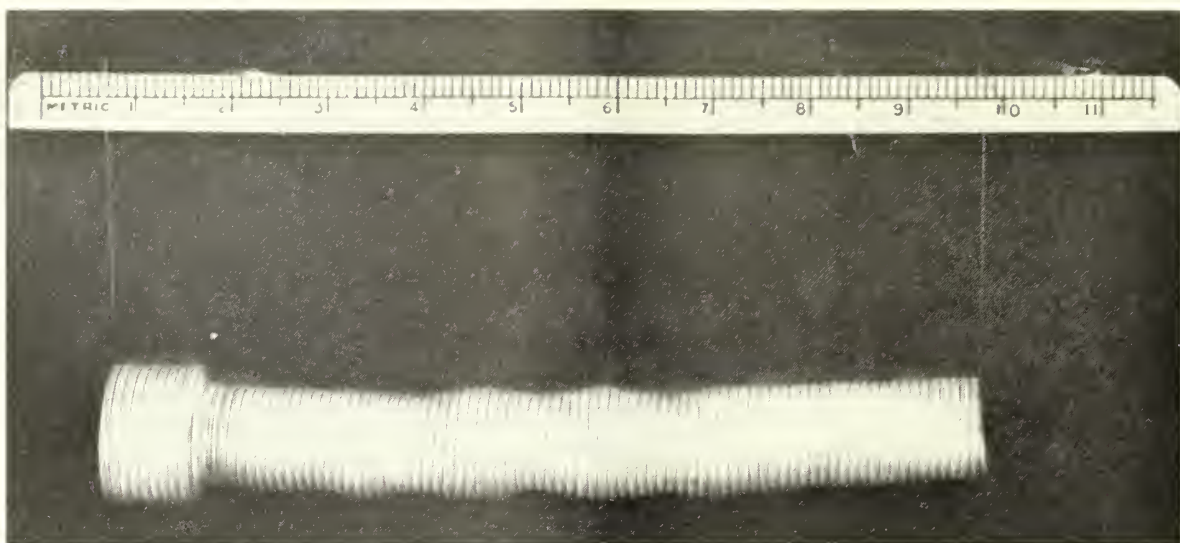


Figure 1. A Souttar tube.

used the tube designed by Souttar in 1927 and recommended more recently by Allison.^{1,2} The Souttar tube (Figure 1) is made of gold plated nickel wire wound in coil spring fashion with broad spiral grooves in the stem to prevent slippage. Together with the equipment necessary for its insertion it is available in sizes ranging from three to four inches in length and from $\frac{5}{16}$ to $\frac{3}{8}$ inches in diameter from the Genitourinary Manufacturing Company, London, England. The entire set for insertion of the tube is illustrated in Figure 2.

In addition to the management of patients with incurable lesions it seemed to us that the Souttar tube might be helpful in the preoperative preparation of patients with resectable lesions who were severely debilitated by malnutrition and aspiration.

Technique

This tube can be inserted either under general or

topical anesthesia. If general anesthesia is used it is probably wise to have an endotracheal tube in place to maintain the airway and provide a means of supporting respiration during the procedure. After satisfactory anesthesia has been established, the patient is carefully positioned for esophagoscopy and a large Negus esophagoscope is passed. If a feeding tube has previously been placed this provides an excellent guide for passage; if not, it may be of help when the esophagoscope has been introduced into the hypopharynx to pass a small bougie through it into the esophagus as a guide. The scope is advanced until the lesion is encountered; the distance from the incisors is then determined. Careful and persistent search will usually demonstrate some residual lumen through the lesion, though this may be quite small. If absolutely no lumen is found it is probably unwise to attempt to insert an intraluminal tube. When a lumen is found, using graded filaforms and bougies,

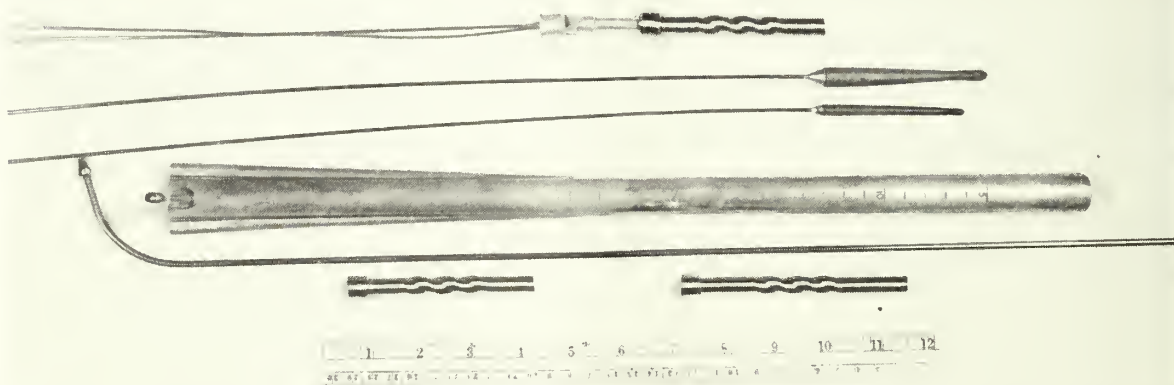


Figure 2. Set for insertion of Souttar tube. From top to bottom: Souttar tube with plunger for insertion; esophageal bougie, Negus esophagoscope, suction tube, two Souttar tubes.

it is carefully dilated a little. Great care should, of course, be exercised at this point not to create a false passage out of the esophagus. Also it is important to avoid overdistention of the lumen as satisfactory placement of the tube is dependent upon securely engaging the tube in the tumor mass.

Upon completion of dilatation the last bougie is left in place through the tumor.

A Souttar tube of appropriate dimensions is then selected, placed around the bougie handle and passed through the esophagus to the level of the lesion. It is then slowly advanced through the lesion with a special plunger designed for this purpose. If dilatation has been adequate, moderate resistance is encountered as the tube is advanced. If strong resistance is met additional dilatation may be necessary, but again care should be taken not to overdistend the lumen. When the tube is in place the esophagoscope is withdrawn a short distance and the location of the tube with reference to the upper end of the tumor is checked; it should lie with the flange just above the upper limit of the tumor mass. The bougie is now withdrawn above the Souttar tube and is then again passed through the tube to check distal patency. The distance from the incisors to the upper end of the tube is then measured and, knowing the length of the tube, the area encompassed by it can be determined.

With the plunger in place to prevent catching the tube and withdrawing it with the esophagoscope the scope is removed and the plunger is withdrawn.

Soon after the procedure a plain film of the chest is taken to check the position of the tube and a day or so later a barium swallow can be performed to assess the adequacy of function of the tube. The patient is usually started on liquids and soft foods as soon as the chest film has been seen and he is thereafter continued on a soft diet. It is important to caution the patient against the ingestion of solid foods which may clog the lumen of the tube.

Results

We have had experience with 42 patients who have now had a sufficiently long period of follow-up to permit evaluation of results. In 38 instances the indication for insertion of the tube was incurability of the lesion by virtue either of local extension or distant metastasis; in two of these patients the lesion was a recurrence of previously resected tumor. In four instances, the tube was employed because, though the patients were considered to have resectable and potentially curable lesions, they were so debilitated that it was elected to pass the Souttar tube in an attempt to improve their general condition sufficiently to make them reasonable candidates for resection.

Pre-insertion and postinsertion barium swallow on one patient is shown in *Figure 3*.

The lesions in the 42 patients lay at various levels, some being located in each third of the esophagus.

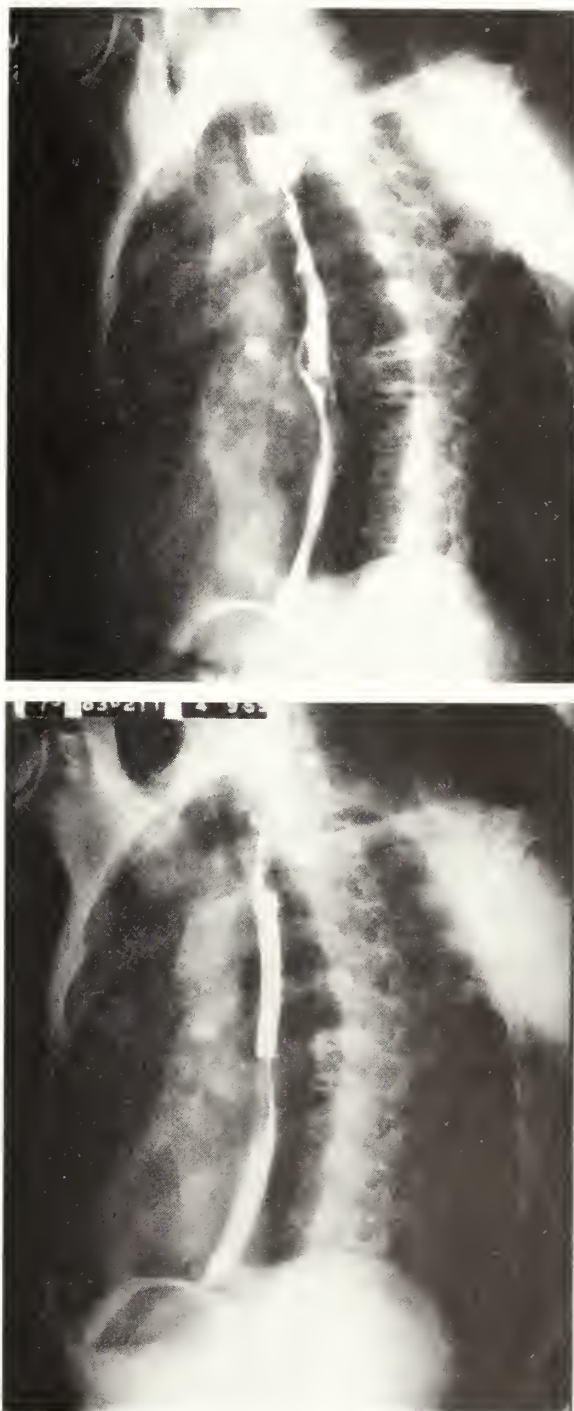


Figure 3. (a) Barium swallow showing tumor in upper third of esophagus. Note dilatation of esophagus above tumor with "hold-up" of barium. (b) Barium swallow on same patient after insertion of Souttar tube. Note free flow of barium with no dilatation or "hold-up" above tumor.

There was, of course, considerable variation in the length of the obstructing tumor mass and three patients required the insertion of two tubes in series in order to establish patency; the postinsertion barium swallow in one of these patients is shown in *Figure 4*.

The results obtained in terms of relief of obstruction and regurgitation have been gratifying. One of the 42 patients was not obstructed at the time the tube was inserted; the tube was placed in this instance to guard against subsequent obstruction occurring from edema and inflammation during x-ray therapy of the locally far advanced tumor. She passed her tube through the tumor within several days. Several other patients have passed their tubes through the tumor but this occurred in each instance after the completion of x-ray therapy when the lesion had shrunk as a result of the therapy. In each instance in which a tube has passed through the tumor it has either remained innocuously in the stomach or has passed out through the intestinal tract without causing any difficulty.

Of the 41 patients with obstruction, 29 have been relieved of their obstruction and regurgitation for one month or longer. Of the other 12 patients, four had continuing difficulty with either regurgitation or obstruction and eight died within one month of insertion of the tube. In seven of these instances death was due to progression of the malignant disease

and it is our feeling that the selection of these patients for tube insertion was probably, in retrospect, unwise due to the fact that negligible palliation was achieved with the tube because of the advanced nature of the disease; in the eighth case death was due to perforation of the esophagus by the Souttar tube. This patient is commented on below.

In two patients the tubes, after their initial placement, were regurgitated and had to be reinserted. In both instances satisfactory relief of regurgitation and obstruction was obtained at the time of the second insertion. Another patient became re-obstructed several days after the tube had been placed and on repeat esophagoscopy a large particle of food was found impacted in the lumen of the tube and this had to be removed.

Morbidity and mortality have been low considering the severity of the illness in these 42 patients. In two instances, the Souttar tube has perforated the esophagus. One patient, who had distant metastatic tumor, developed signs of mediastinitis and empyema over the 24 hours following the procedure and in spite of antibiotics, exploratory thoracotomy, closure of the perforation and drainage of the mediastinum and pleura, he died two days later. The other patient was one of the four in whom the tube was inserted to improve general condition prior to resection. In this case, barium swallow on the day after insertion revealed that the tube lay outside of the esophageal lumen, but the patient developed no signs of sepsis and actually had some relief of his obstruction and regurgitation. The lesion was subsequently resected and at that time the tube was found to lie outside the esophageal lumen but within a rather large tumor mass containing a small abscess cavity about the tube.

Other than these two cases, morbidity has been negligible; the other 40 patients suffered from no more than a slight sore throat incident to the esophagoscopy.

Insertion of the tube in these 42 patients has been carried out by several different members of the surgical staff.

Discussion

It would seem that endoscopically inserted intraluminal tubes are a useful adjunct to the other techniques available for the management of esophageal carcinoma. It is possible in this relatively simple and safe manner to provide a patent passage for food and to eliminate regurgitation. Such tubes are useful for lesions at any level and of any length.

The Souttar tube can be used in conjunction with x-ray therapy. Most of our patients with lesions considered incurable by virtue of local extension were

(Continued on page 289)

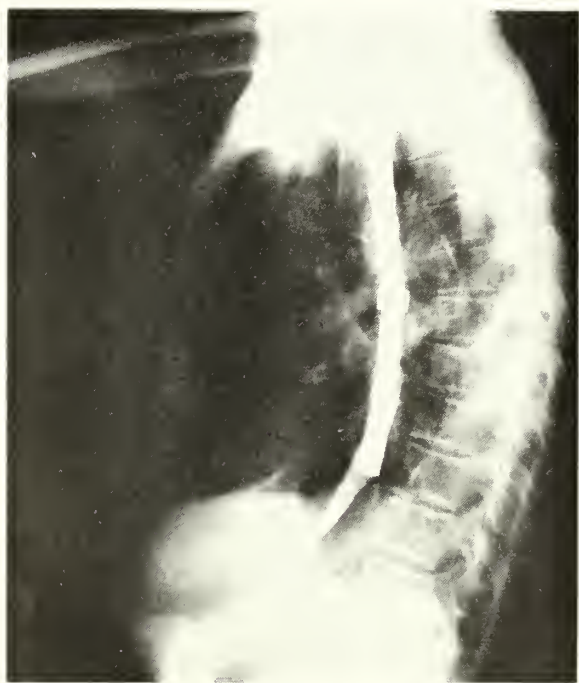


Figure 4. Barium swallow on a patient with long area of obstruction requiring insertion of two tubes.

Toxicity Reversed

Reversal of Imipramine-Monoamine Oxidase Inhibitor Induced Toxicity by Chlorpromazine

JARED GRANTHAM, M.D., WILBUR NEEL, M.D., *Kansas City, Kansas, and*
ROBERT W. BROWN, M.D., *Kansas City, Missouri**

THE USUAL SIDE EFFECTS of monoamine oxidase inhibitors such as hypotension, dizziness, and dryness of the mouth are known, and increasing the dosage produces marked central nervous system disturbances.¹⁻³ More profound toxicity has been reported to result from the combined administration of imipramine and monoamine oxidase inhibitors.^{4,6} Hyperpyrexia, profuse diaphoresis, tachypnea, atropine-like flush, convulsive seizures, and coma may result from the combined or successive use of these drugs.

We have recently observed a patient who developed these signs of toxicity following the consecutive administration of tranlycypromine and imipramine. The prompt improvement of this patient following the administration of chlorpromazine suggests a rational therapeutic approach.

Case Report

A 26-year-old white male was admitted to the psychiatry service on September 13, 1962, with a diagnosis of chronic schizophrenia. Initially he was treated with trifluoperazine hydrochloride, 10 mg. daily, but because of progressive asocial behavior and depression, the trifluoperazine (total amount given 470 mg.) was discontinued and imipramine 25 mg. four times daily given. After 19 days on this drug he was not improved, the imipramine was stopped and on the following day tranlycypromine sulfate, 30 mg. per day started. Six days later he became agitated and combative, had auditory hallucinations and was noted to have profuse diaphoresis and sialorrhea. He was nauseated, vomited several times, and became progressively less responsive. His behavior was characterized by random, uncoordinated, purposeless muscular activity and incoherent speech. Subsequently, coma ensued and was accompanied by an appearance of decerebrate rigidity, carpopedal spasm,

hyperactivity of all reflexes, and dilated, fixed pupils. The blood pressure was 160/100, the pulse 104, the temperature 102° F. and the respirations 50 per minute. The skin was flushed and appeared edematous with irregular patches of erythema over the arms, chest, and back. Breathing was rapid, deep, and

Severe central nervous system excitation with coma occurred in a patient following the consecutive use of imipramine and tranlycypromine. Coma, hyperpyrexia, generalized spasticity with bilateral Babinski signs, diaphoresis, sialorrhea, and respiratory alkalosis characterized the clinical picture. Administration of chlorpromazine promptly reversed most of the toxic signs and symptoms.

frothy secretions filled the nasopharynx. The pupils were dilated and unresponsive to light. The eyes were divergent and wandered back and forth from the midline to the left. Deep tendon reflexes were hyperactive; bilateral ankle clonus and Babinski sign were present.

The cerebrospinal fluid opening pressure was 190 mm. of water. The fluid was clear with no cells, the protein 28 mg. per cent, and the sugar 103 mg. per cent. Examination of the blood revealed a hemoglobin of 14.0 gms. per 100 ml., a hematocrit of 42, and a white cell count of 15,000 with 75 per cent neutrophils. The urea nitrogen was 6 mg. per 100 ml., the calcium 4.4 milliequiv., the sodium 120 milliequiv., the potassium 3.8 milliequiv., the chloride 92 milliequiv., and the carbon dioxide 25.1 m. Moles per liter. The urine specific gravity was 1.032 and the pH in excess of 7.5.

A tracheostomy was done. He was treated with intravenous fluids and given alcohol sponging to reduce his temperature; however, 12 hours later the clinical situation remained essentially the same with no change in neurologic findings. The temperature

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was 103° F., the blood pressure 140/80, pulse 96, the blood pH was 7.53, the $p\text{CO}_2$ 22 mm. Hg., and the carbon dioxide content 19 m. Moles per liter.

Two hundred and seventy-five m. Moles of 3 per cent sodium chloride were infused in two hours with no change in the serum sodium concentration. Virtually all of the infused sodium was recovered in urine of high specific gravity (1.030).

Approximately 24 hours after onset of the acute symptom complex he was given chlorpromazine, 25 mg. intramuscularly. Within ten minutes the respiratory rate dropped from 33 to 22 per minute, the blood pressure rose from 140/80 to 160/80 and the pupils were contracted. A second injection of 25 mg. chlorpromazine one hour later was followed by further depression of the respiratory rate. He became quieter, the purposeless muscular activity ceased, the Babinski sign was absent and deep tendon reflexes normal, and the temperature decreased to 100.5° F. Chlorpromazine, 25 mg., was given six and twelve hours after the first dose. Sixteen hours after the initial dose of chlorpromazine he was conscious, afebrile, and no neurological abnormality could be elicited. The subsequent course was uneventful.

Discussion

Monoamine oxidase inhibitors are thought to produce psychic alterations by causing an accumulation of adrenergic substances within the central nervous system, whereas, imipramine causes sensitization of adrenergic receptors.⁷ Studies in rats have demonstrated that the simultaneous administration of these two types of compounds may produce toxic effects which are synergistic.⁶

Toxic effects similar to those seen in this patient have been reported following the ingestion of an overdose of imipramine and MAO inhibitor; and following the consecutive use of MAO inhibitor and imipramine in "therapeutic" doses.^{3, 4} An interval of 14 days has been recommended between discontinuation of one drug and administration of the other.

The hyponatremia, hypergravidarium, and low blood urea nitrogen suggested an inappropriate secretion of antidiuretic hormone.⁸ The inability to raise the serum sodium concentration with an intravenous sodium chloride load was consistent with this derangement, however, osmolality determinations were not done. Clinical factors precluded further evaluation of the cause of the hyponatremia, and subsequent studies revealed no abnormality of renal conservation of sodium.

Chlorpromazine was given because of its known anti-adrenergic properties, and the previously reported response of fever of central origin to the drug.^{9, 10}

Bilateral miosis, absent Babinski signs, decrease in hyperreflexia, decrease in respiratory rate, and elevation of systolic blood pressure were observed within 10 minutes after injection of the drug. Return of consciousness and normothermia occurred within 16 hours. The prompt reversal of these toxic manifestations following chlorpromazine administration implied a causal relationship.

Acknowledgement

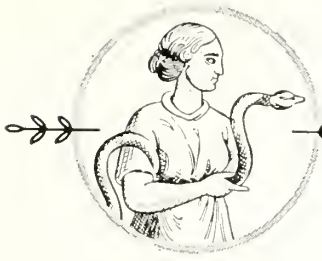
The authors are indebted to Dr. Edward Walaszek and Dr. John Chapman, Department of Pharmacology, University of Kansas Medical Center for consultations regarding the patient.

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CLEFT PALATE CORRECTED EARLY

Plastic surgeons can now correct the birth defect of cleft palate at eight months instead of waiting several years until face and teeth assume a more permanent form. Dr. Dicran Goulian of New York City said it is hoped that in time these children "will have less difficulty in terms of dental and orthodontic problems and that the facial contour will be improved." The procedure, which stabilizes the natural contour of the upper jaw, consists of bone grafting after insertion of an acrylic plate into the bony cleft to achieve proper alignment.—Annual Meeting, Medical Society of the State of New York, Feb. 1-4, 1964.



Medical HISTORY

Gout: Historical and Other Notes

THOMAS J. RANKIN, M.D., *Kansas City, Kansas**

GOUT, AS NO OTHER DISEASE, is deeply imbedded in our folklore. It is the subject of the humor of the other's discomfort in several Sunday comic strips, notably Captain Katzenjammer (*Figure 1*). Bill Vaughan quips, "The gout victim should avoid certain foods and all friends with an overdeveloped sense of humor." It is the only disease noted by Mother Goose. Her hint of its hereditary nature seems unusually prescient. The large, cutout, gouty shoe to which she refers was once a necessary reserve article of the wardrobe of many (*Figure 2*). Franklin wrote to John Paul Jones, "Be so good as to remember me to Mr. Wharton and tell him that I am still in his gouty shoes, which I have worn this past week, and thank him for the comfort of them."

Paleontologic inference could lead to the conclusion that we come by gout naturally from our uricotelic ancestors. Birds, reptiles and the egg conserve metabolic water through the loss of nitrogen via uric acid. Homer Smith, however, disagrees. He feels that reptiles and birds acquired the uricotelic mechanism after their evolutionary branching. Be this as it may, mammals lose nitrogen via conversion to urea, their nucleoprotein nitrogen, only, is lost via uric acid. All, except man and the apes, degrade uric acid with the enzyme, uricase. The author has little information about apes and shall have to confine his concern with the history of gout to man.

However, far back into our evolutionary past a relative hyperuricemia may have existed, the first unequivocal evidence was the demonstration of a uric acid tophus in the toe of an Egyptian mummy, circa 100 A.D. Heiron of Syracuse, 500 B.C., seems to have recognized gout. Hippocrates remarks its hereditary disposition, the periodicity of acute epi-

sodes, its worsening in the Spring and Fall, the rarity before puberty, the appearance in women after the menopause, and the immunity of eunuchs. The tophus of gout was first described by Galen.

Aretaeus gave the illness its name, Podagra, appropriately "a trap for the foot." At his time the seizure of the great toe was described as common. Friction or trauma was commonly blamed, reminiscent of our own Pheasant Hunter's Gout. It was noted that a sufferer from gout won an Olympic event between attacks. Demetrius dedicated a major work on Podagra to Michael Paleologus in the 13th century. About this time the name, gout, seems to have arisen in lay usage in England, coming from *gutta*, clearly



Figure 1. Kapitan Katzenjammer, by Kay Wahl with apologies to Rudolph Dirk.

* From the Department of Medicine, University of Kansas Medical Center, and Kansas City Veterans Administration Hospital.

Presented at the Hixon Hour, Department of Medical History, University of Kansas Medical Center, December 19, 1961.

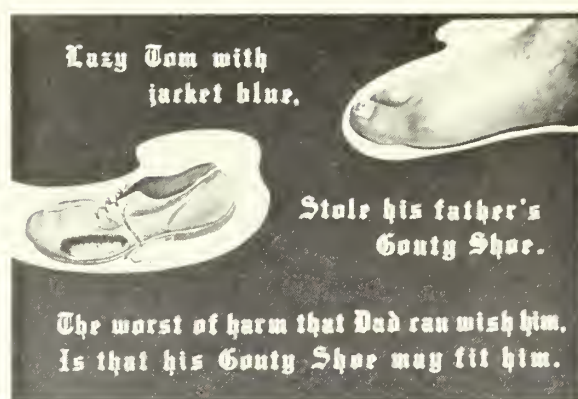


Figure 2. The sore foot, the shoe and Mother Goose's genetics.

a subscription to the humoral theory of disease of the dropping of humor into the joint. This was an accepted concept for some 2,000 years, beginning with Pythagorus and extending through Sydenham, himself a sufferer from gout.

Acute, recurrent gout seems to have had a wider prevalence in affluent societies. The golden age of Greece gives us our first description. Seneca, emphasizing the decadence of Rome, stated that women of the patrician class were so debauched that there need be no astonishment that so many were afflicted with gout. Central Europe and 18th century England gave rise to many delightful caricatures. Affluent America seems no exception.

Old Bohemian caricatures (*Figures 3, 4*) emphasize the concept at that time that gastronomic indulgence was related to the incidence of the acute Podagra. Possibly the best known caricature is that of Gillray, with the common association of the spider or crab with the pangs of gout (*Figure 5*).

Tom Benedek, in a search through old German writings, traced a delightful legend back through Petrarch to the ninth century: "Once upon a time the Gout lived with the peasant, the Spider in the rich man's house. The Spider was unhappy because the servants were continually wiping down his webs. The Gout was unhappy because he had to go into the fields, pain or no, and work with the peasant. They met one day in the village square and expressed their complaints. The result was a decision to exchange places. The Spider was thereafter happy since no one in the peasant's hut had inclination to disturb him. The Gout, in the rich man's house, was henceforth nursed on a silken pillow."

The gouty suffer intense pain, but uniquely seem to achieve humor and ridicule rather than sympathy. Darwin attributes the origin of the smile to the baring of fangs at the other's discomfiture. Perhaps the disenfranchised of the industrial revolution in

England felt that the indulgence of the favored few was justly rewarded. Gout is still funny to those who do not have it, and the ordinary man is often indignant to have a gouty toe without the joys of preceding liberties.

Many notable historical figures have suffered the gout. Among leaders were: Atticus, Alexander, Kubla Khan, Agrippa, Henry VII, *Queen Anne*, Cromwell, Tallyrand, Pitt, Franklin, Chesterfield. In science: Bacon, Boyle, Sydenham, Hunter, Widal, Linnaeus, Darwin, Welch. In literature: Lowell, Gray, Walpole, Johnson, Goethe, Gibbon, Fielding, Milton, Dryden, deMaupassant. The founders of Protestantism, Luther, Calvin and Wesley, were among them; one wonders how John Knox escaped and if the papacy confers immunity.

Sydenham, from his own experience, gave the classic description, which cannot be improved upon today. "It comes on a sudden toward the close of January or the first of February giving scarce any sign of its approach. . . . The day preceding the fit the appetite is sharp but preternatural. The patient goes to bed, and sleeps quietly until two in the morning when he is awakened by a pain which usually seizes the great toe. . . . He cannot tolerate the weight of bedclothes on his throbbing foot nor the shaking of the floor from persons walking briskly thereon."

Lowell called his gout the unearned increment from his good grandfather's Madeira. Other sufferers were more bitter. Ellwanger, an upstate New York journalist, spoke of the gout as "A perverse, ungrateful, maleficent malady, that delights upon the slightest pretext in assaulting vulnerable humanity at the most unseasonable hours and inconvenient times; an affliction that is especially prone to picket clubmen, physicians, poets and heads of official departments; a stomachic metabasis that in some undeterminable, underhanded way is occasionally connected with the moderate use of certain wines and malt liquors, though these be otherwise of an innocuous character. . . . A stealthy, rancorous, irascible, mordacious disorder, masked under many forms, that continues to defy the science, skill, and pharmacopeia of the medical profession. It is the charlock of maladies, that may thrive in every soil and will not be eradicated—the wolf of diseases, with ensanguined fangs and encarmined jowl, who refuses to be baited even with asafoetida . . . its poison comes by heritage, its venom lurks in the wine-cup, its seeds are sown at the gatherings of good-cheer."

Another clergyman, Sidney Smith, observed that when he had the gout, he felt as if he were walking on his eyeballs. Lord Chesterfield called the House of Lords "The Hospital for Incurables." Non-sufferers were not charitable. Cowper spoke of " . . . Pangs arthritic that infest the toe of libertine excess."



Figure 3



Figure 4

Figures 3, 4. Old Bohemian caricatures, c. 1715, courtesy of John Talbott.

Fancy even raises the conjecture that gout helped give birth to the United States. The elder Pitt was frequently and extraordinarily disabled with the gout. He championed the cause of the colonies against oppressive taxation with great fervor in the House of Commons. Reinstitution of the Stamp Act and the well-known Boston objection occurred during two years of Pitt's illness and absence from the House. It is interesting that Pitt and Franklin, both so influential in the forming of this country, were friends and had gout as a common element of fraternity. Could colchicine, if available then, have changed our history?

The story of the treatment of gout is as fascinating as that of the disease. Hippocrates recognized the comfort to the gouty joint achieved by cold applications. He also recommended the burning of flax near the affected part, a remedy which lasted for a millennium. Alexander of Tralles, in the sixth century, is usually credited with the first use of Colchicum. However, there is some evidence that he gained his knowledge of the remedy from predecessors. Theophrastus of Erusus knew the bulb, Colchicum Autumnalle, as Ephemeron in the fourth century B.C. Dioscorides included it in his pharmacopeia in 100 B.C., though not in relation to the

management of arthralgia. Aretaeus in 150 A.D. spoke of Hellebore as the great remedy for gout. This can only be given credence if one conceives that the botanical source of Veratrum can have been confused with that of Colchicum. Paul of Agina, 700 A.D., and Serapion, 1100 A.D., as well as other Roman, Byzantine, Arabic and Middle Ages physicians treated the gout with derivatives of the bulb of plants resembling meadow saffron. Throughout a long time, the botany of Colchicum was confused. Hermodactyl, Ephemeron, Surugen and Herbstzeitlose were possible synonyms for Colchicum. The gout was successfully managed by drugs of these several names until about 1500, when Hieronymous Bock and others felt it to be dangerous and to make gout worse. With this, it seems to have disappeared from the pharmacopeia for two to three centuries.

Alternative methods of management have been many and marvelous. Purgation, emesis, diaphoresis and blood letting were thought to deplete the excess humors which dropped into the joint. The soothing music of the flute was thought effective. A month to month program of Aetius is most delightful:

January: Take a glass of pure wine every morning.
February: Eat no beets.



Figure 5. The torment of the podagra; the association of the crab (or spider), c. 1799, Gillray.

March: Mix sweets with eatables and drinkables.
 April: Refrain from horse-radish.
 May: Eat no polypus fishes.
 June: Take cold water every morning.
 July: Abstain from venery.
 August: Eat no mallows.
 September: Drink only milk.
 October: Garlic must be eaten.
 November: Bathing is prohibited.
 December: Eat freely of cabbage.

Sennert, a contemporary with Harvey, recommended a poultice of marshmallow leaves, cabbage, barley and frog sperm. Loselius, of the same period, proposed the shaving of the hair of both legs and at the same time the paring of the nails. This should be done in the spring, the day before a new moon. The hair and the nails were then to be placed in a hole bored in an oak tree and stopped tight. The following day the plug confining the hair and nails should be plastered well with cow dung. It was stated that if the patient had no recurrence of the gout within three months, it could be credited to the tree. Robert Boyle noted that if puppies were to lie with the gouty sufferer, the pain was strangely eased by the transference of the affliction to the puppies.

Colchicine returned to medicine as the ingredient of a quack nostrum. Nicholas Husson, a French army officer, introduced it in his panacea, *Eau Medicinale*, in 1780. Many "secret" modifications gained great popularity as a result of efficacy in gout. The American Dispensatory, 1810, tells the use of Colchicum as a diuretic in hydrothorax and relates its reputation in Alsace to destroy vermin in the hair—but does not mention gout. In 1814, Want identified the effective ingredient of the prevalent nostrum as colchicine. It remains the remedy for acute gout and is possibly the oldest specific in medicine. The begin-

ning of modern knowledge of gout is roughly contemporary with the reappearance of colchicine. In 1776, Scheele reported "lithic acid" in urinary concretions. Wollaston in 1797 noted the same lithic acid in extrusions from gouty tophi. William Prout in 1818 used murexide to develop the salt of purpuric acid from urine. The elder Garrod in 1848 described his famous string test—a linen thread dipped in gouty serum left to dry on a mantel crystallized a sugar-like material. This led to his classic work on "The Nature and Treatment of Gout and Rheumatic Gout" in 1859, the first modern treatise. Emil Fisher found purines to be derivatives of cell nucleus. Miescher, in 1871, derived nucleic acids from blood cells and salmon sperm. Von Kneiriem, Folin and Dennis, Benedict, Richards and Walker, and Homer Smith contributed to the early 20th century piecing together of the basic concepts of urate metabolism and renal clearance.

It is fitting that Garrod's grandson gave such impetus to our understanding of the place in medicine of inborn errors of metabolism in his classic monograph.

Strangely, at about this point, gout seems to have lost "style" as a diagnostic entity. This may have been concurrent with immense strides in our knowledge of infectious disease and the successful control of many epidemic scourges. The physician practicing between the two great wars of this century was little aware of gout. Kurt Reissmann tells that when he was a student in Berlin, his professor stated that gout was a very interesting illness—he knew all six cases in the city. The *British Medical Journal* in 1932 stated: "Gout is an almost extinct disease." Grandmother and the creator of Captain Katzenjammer, however, seemed uninfluenced by authority.

Now the prevalence of gout is again appreciated. Much thanks to this must be credited to Talbott and his enthusiasm. Many physicians following him are hard on the track of understanding of this most ancient of recognized diseases. Modern biochemistry, genetics and the precise tools afforded by radioisotope labelling give great promise. Success will be welcome. However, it can never dim the charm of a long history.

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(Continued on page 289)



Metastatic Liver Cell Carcinoma and the "Second Look" Operation

Edited by JAMES M. FLYNN, M.D., Kansas City, Kansas

Medical Student: This 19-year-old white male was first admitted to the Kansas University Medical Center nearly three years ago in July, 1961. His chief complaints were epigastric pain and intermittent fever of approximately four weeks duration. He also had pain in the left supraclavicular area. The pain was described as having had a rapid onset over approximately one hour after which it became persistent. At that time a temperature elevation of 101°F was noted. The pain was aggravated somewhat by breathing. Over the next several days there was intermittent fever from 100-102°F. There was no significant past medical history or family history. The positive physical findings were limited to the abdomen. There was a tender mass within the left upper quadrant which was interpreted as an enlarged spleen. Some examiners believed a portion of the left lobe of the liver was palpable near the mass interpreted as spleen. The right lobe of the liver was not palpable.

The laboratory findings included a normal hemogram and hepatogram. The BUN was 12 mg. per cent and the fasting blood sugar 98 mg. per cent. A barium enema and upper GI series were also essentially normal. Several other laboratory and radiologic studies were also normal.

Dr. Stanley R. Friesen (Surgeon): We have, then, a 17-year-old boy with a sudden onset of symptoms four weeks prior to admission consisting of pain in the epigastrium in the left supraclavicular area and fever. Dr. Tice, may we see x-rays taken on this boy's first admission in 1961?

Dr. Galen Tice (Radiologist): This is an IVP. There is a suggestion of displacement of the left ureter away from the mid-line, the psoas muscle

shadows are fairly well visualized. Kidney function appears normal.

Dr. Friesen: Would you say that the spleen is enlarged, Dr. Tice?

Dr. Tice: I would not be concerned about it here. Usually an enlarged spleen will displace the splenic flexure downward and this has not occurred here.

Dr. Friesen: The radiologist does not believe the spleen is enlarged. Do you think it is possible that what was felt was not an enlarged spleen?

Medical Student: Yes, it is possible the mass represents a tumor within the liver or possibly a retroperitoneal tumor mass.

Dr. Friesen: Are there questions concerning the history or physical examination?

Question: Was lymph node enlargement noted on physical examination?

Medical Student: No.

Question: Did the illness begin with epigastric symptoms or were these symptoms preceded by right lower quadrant symptoms?

Medical Student: The illness began with epigastric complaints. There were no lower abdominal symptoms. Examination revealed no right lower quadrant tenderness or mass.

Question: Was a bruit heard over the epigastric mass?

Medical Student: No.

Dr. Friesen: We have epigastric pain, fever, a left upper quadrant mass with evidence of referred pain from the left leaf of the diaphragm. The mass was thought to be spleen by the clinicians but this was not corroborated by the radiologist. What was the clinical diagnosis preoperatively?

Medical Student: Following the clinical workup it was concluded the patient probably had a retroperitoneal lymphoma with an enlarged spleen and questionable hepatomegaly.

Dr. Friesen: Would you tell us what the operative findings were?

Medical Student: At operation the abnormal findings consisted of a mass approximately 8 cm. in greatest dimension within the left lobe of the liver involving the superior pole of the spleen and the postero-inferior surface of the diaphragm. It did not involve the left kidney, adrenal, aorta or stomach. Lymph nodes about the celiac axis and within the omentum were enlarged.

Dr. Friesen: It was my impression the patient had a lymphoma involving the retroperitoneal lymph nodes and left lobe of the liver. What was done to establish the diagnosis?

Medical Student: A lymph node from about the celiac axis and another from the omentum was sent to the pathologist for an opinion. On the basis of the frozen section he felt the tumor was malignant but did not give a definite diagnosis. The surgeon, feeling that this might be a lymphomatous tumor, decided to wait for a permanent section for histologic diagnosis and possible irradiation therapy.

Dr. Friesen: What did the permanent section show?

Medical Student: The permanent section showed this tumor to be a hepatic cell carcinoma.

Dr. Friesen: Now this is a primary carcinoma of the liver with metastases to the celiac nodes instead of a lymphoma. The problem is quite different than it was originally. What was done next?

Medical Student: Ten days after the original surgery he was taken to the operating room and re-operated. The left lobe of the liver was resected along with the spleen and a portion of the left leaf of the diaphragm. He tolerated the operation without difficulty and was returned to the ward in good condition.

Dr. Friesen: Was residual tumor left behind at operation?

Medical Student: The para-aortic lymph nodes about the celiac artery were left in place at this operation.

Dr. Friesen: Would you tell us what happened next?

Medical Student: He was discharged from the hospital and followed in the out-patient clinic. Two months after discharge he was admitted for a "second look" operation and for removal of para-aortic lymphatic tissue.

Dr. Friesen: What was found during this third operation?

Medical Student: The previous operative site was re-explored and all suspicious lymph nodes were removed along with other tissues along the lesser curvature from the hilum of the liver to the cardio-esophageal junction. Five lymph nodes from within the celiac areas contained residual metastatic tumor. Intravenous nitrogen mustard was given post-operatively. His post-op course was uneventful and he was discharged and followed for six months at which time a fourth operation was carried out. At this time exploration of the previous operative site yielded no evidence of tumor. Peritoneal implants were present, however, within the cul-de-sac as well as a nodule within the mesentery of the sigmoid colon and within the serosa of the appendix and the right subdiaphragmatic surface. All identifiable metastatic tumor was again excised. Nitrogen mustard was instilled into the peritoneal cavity at this time. A fifth operation, the third "second look," was done in January, 1963. A small tumor nodule was found within the omentum and excised and a second small nodule was excised from the upper portion of the previous abdominal incision. The remainder of the exploration of the

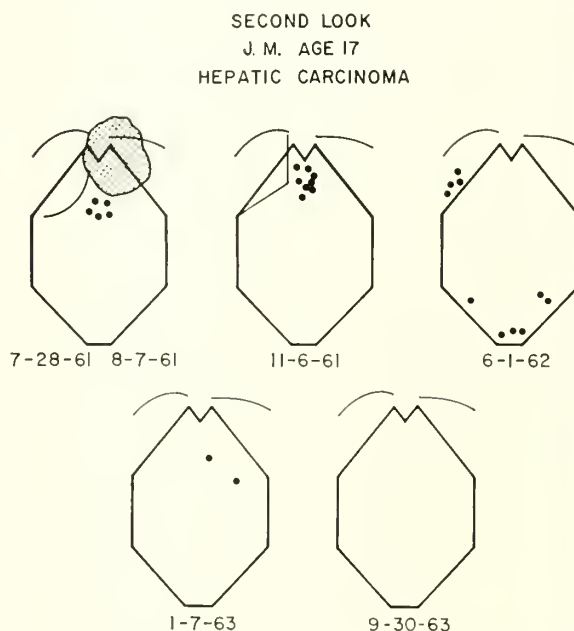


Figure 1. The diagram summarizes the dates of operation and the sites of metastatic liver cell carcinoma.

abdomen was entirely negative. Again the post-operative course was uneventful.

The last exploratory operation was during the present admission and at this time no residual tumor could be found (Figure 1).

Dr. Friesen: Was there any evidence of recurrent

tumor on any of the physical examinations prior to operation?

Medical Student: No, sir, in each case the clinical course was characterized by weight gain, normal activity and apparent freedom from disease.

Dr. Friesen: Dr. Helwig, will you tell us about the pathology please?

Dr. Ferdinand Helwig (Pathologist): The specimen received in the laboratory after the second operation was described as consisting of the left lobe of the liver, spleen, several lymph nodes and a small portion of the diaphragm. The liver lobe weighed approximately 900 grams. Its contour was moderately distorted by a tumor mass within the liver parenchyma. On the cut surface it was light tan and softer than the surrounding darker more firm normal liver. Small areas of necrosis and hemorrhage were present within the tumor mass.

Microscopically, the tumor had a lobular contour and invaded and compressed the adjacent normal hepatic parenchyma. The tumor cells were oriented predominantly in cords and trabeculae separated by a loose fibrous stroma. In many areas large and small lobules were surrounded by a dense hyalinized desmoplastic stroma. The tumor cells varied moderately in size and shape and exhibited a pale granular eosinophilic cytoplasm. Recognizable bile was present within the cytoplasm of numerous tumor cells. A stain for glycogen revealed abundant stainable material within most of the tumor cells. The tumor cell nuclei showed characteristic abnormal features. They were frequently large and vesicular with coarse chromatin clumps and one or more large eosinophilic nucleoli. Some nuclei exhibited bizarre shapes. These features

are typical of carcinoma of the hepatic parenchymal cell type (*Figure 2*).

There was invasion through Glisson's capsule to involve the diaphragmatic serosa. The liver and spleen were described as adherent by fibrous adhesions but no invasion of the spleen was present. Two of the lymph nodes submitted contained metastatic tumor (*Figure 3*).

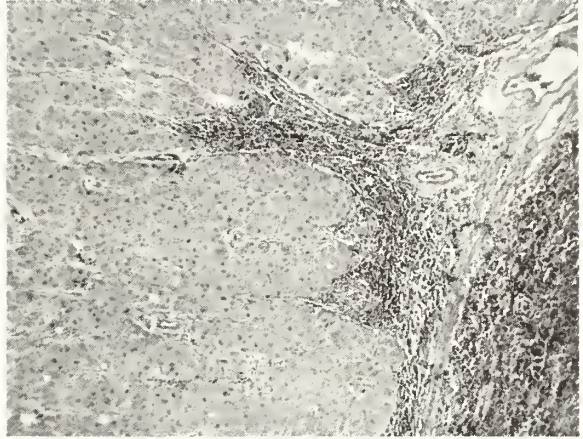


Figure 3. Metastatic liver cell carcinoma replacing the parenchyma of a para-aortic lymph node.

I have also reviewed the slides from all the subsequent operations and find metastatic hepatic cell carcinoma identical to the original tumor in all cases except the last operation. The tissues submitted from the last operation contain no carcinoma and the liver biopsy shows some hepatic cell regeneration.

Dr. Friesen: Would you call this a hepatoma or a hepatocarcinoma and would you point out the difference if there is one?

Dr. Helwig: Primary carcinoma of the liver may arise from either the hepatic parenchymal cell or the intrahepatic biliary tract epithelium. The former is usually identified as liver cell carcinoma or hepatocellular carcinoma but some prefer the term malignant hepatoma. Malignant tumors arising from the intrahepatic bile duct epithelium are usually designated bile duct carcinoma or cholangiocellular carcinoma. A third and very uncommon group are the combined or mixed cell carcinomas which contain malignant components of both the parenchymal liver cell and the bile duct epithelium.

Primary carcinoma of the liver may be further classified on the basis of its gross appearance. Some tumors tend to remain localized and grow to a large size and may or may not be surrounded by a few small satellite nodules. As a group these tumors tend to be slow growing. They have been called the solitary malignant hepatoma or massive type and are the

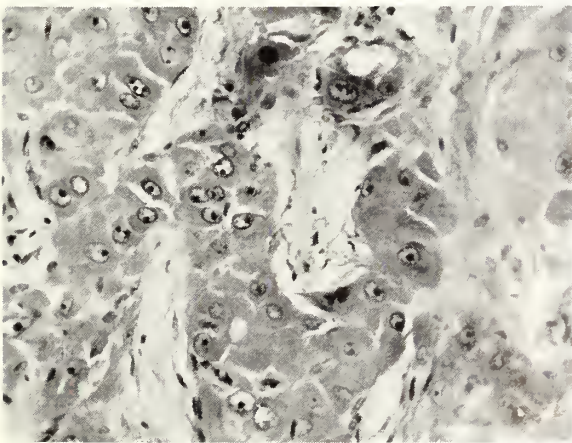


Figure 2. Typical liver cell carcinoma with large pleomorphic cells oriented in a trabecular or acinar pattern within an abundant fibrous stroma. The tumor cell nuclei vary moderately in size and exhibit prominent nucleoli.

type which have been successfully resected. This is the type that we deal with today. Most of these occur within the right lobe of the liver in contrast to today's case where the tumor arose in the left lobe. The most common type is the second type which is called nodular or multicentric carcinoma. This is the type which is superimposed on cirrhosis. It must be differentiated from benign nodular hyperplasia which is also seen in cirrhotic livers. Multicentric carcinoma appears as multiple nodules scattered throughout the liver and one may or may not see one nodule which appears larger than the others. This type has a hopeless prognosis and these individuals usually die from their disease within six months. A third type is called the diffuse type and may simulate metastatic carcinoma or lymphoma and usually involves the entire liver.

The tumor with which we deal today is a fairly well differentiated liver cell carcinoma of the massive type or if you prefer a malignant solitary hepatoma. This tumor metastasizes and has all the morphologic criterion of a true carcinoma.

Dr. Friesen: Dr. Helwig, can you tell the difference between the regenerated liver and the hepatoma?

Dr. Helwig: In this case one can definitely differentiate between the tumor and the regenerated liver. The liver cells from the regenerated liver do not show the variation or hypertrophy of the nuclei or exhibit the prominent nucleoli that are seen in the liver cell carcinoma. The cells in the regenerating liver are very uniform and somewhat smaller. Although regenerating liver may exhibit a moderate degree of hypertrophy of the nuclei they are round and not deformed and do not exhibit the lobulated nuclei seen in the tumor cells.

Dr. Friesen: Dr. Helwig, in the last "second-look" operation, I biopsied both the normal right lobe of the liver and the regenerated left lobe of the liver. I would be interested to know if the regenerated left lobe has the appearance of normal liver and would you expect it to function normally? The question has an implication and raises another question: If one were to resect a portion of a cirrhotic liver for the purpose of providing the patient with regenerated liver, would the regenerated liver be normal or cirrhotic?

Dr. Helwig: Sections from the right and left lobes are quite similar in appearance with a few minor exceptions. In the regenerated liver the lobules are not as uniform and central veins and portal areas show some variation in relationship to each other. The liver cells in the section from the left lobe show double cell plates and large nuclei slightly more frequently than does the tissue from the right lobe. Therefore, the regenerated liver does look essentially

normal and I would expect it to function normally. This is consistent with the experience of those who have studied liver function following resection of a major portion of the liver. Furthermore, the lack of active regeneration here is not unusual since the major portion of the regeneration would occur within a few months after the original resection. In this case it was approximately two years between the resection and the biopsies.

The second portion of your question is difficult to answer. I know of no one who has successfully done partial hepatectomy in cirrhotics and had them survive long enough to make a significant observation. This question has been investigated in experimental animals, but the results are not definitive and depend upon many experimental variables. In general, the regenerating liver in cirrhotic partially hepatectomized experimental animals closely resembles normal liver in appearance and function.

Dr. Friesen: Do you have a concept of the origin of these tumors? Do these tumors arise from embryonic rests of liver cells?

Dr. Helwig: Primary carcinoma of the liver has been described in the newborn and is the most common carcinoma in infancy and childhood. There is no relationship to cirrhosis here but whether or not they arise from embryonic rests or whether such rests may lie dormant for years and later give rise to carcinoma is a matter of speculation. In infants primary carcinoma of the liver almost always arises from the parenchymal cell of the liver. The tumor cell is characteristically smaller and resembles embryonal liver. It is, therefore, designated embryonal carcinoma of the liver.

Dr. Friesen: I have wondered whether there is a predisposing milieu in which this tumor arises and in the present case whether these conditions are still present and may, therefore, lead to a second malignant tumor of the liver.

Dr. Helwig: There is no known predisposing agent or condition leading to carcinoma of the liver in children. In adults, carcinoma of the liver occurs most often in the individuals suffering from cirrhosis of the liver. A small number arise in non-cirrhotic and apparently normal livers as in today's case.

Dr. Friesen: Partial hepatectomy has been done with much more safety in recent years since the anatomy of the liver has been better understood. Formerly, it was thought that the falciform ligament divided the left from the right lobe of the liver. Subsequently, it has been learned that the dividing line between the right and left lobes is more nearly at the level of the gallbladder. The falciform ligament divides the left lobe into a lateral and medial segment. The right lobe on the other hand may be

divided into an anterior and posterior segment. Appreciation of the anatomy has made it much easier to preserve the vascular and biliary structures necessary for a successful resection. In the past, liver resections were unsuccessful primarily because these structures were not preserved and the anatomy was poorly understood.

Dr. Reed, would you like to comment on the surgical treatment of these tumors.

Dr. William Reed (Surgeon): We might comment on the use of hypothermia. There are times when a very precise anatomic dissection is necessary as in this case and one must frequently cross clamp the portal vein and the hepatic artery in order to accomplish this. The use of hypothermia protects the liver from hypoxic damage during this period.

Dr. Friesen: I would like to make two further comments. It has been said many times and deserves emphasis here that epigastric pain and fever is a characteristic way in which primary liver cell carcinoma presents itself. Certainly the presence of a palpable mass in the epigastrium would call ones attention to this possibility but it should not be overlooked in the absence of a palpable mass. Certainly the earlier the diagnosis is made the more one enhances the chances of a successful resection.

The other point is that I believe the use of "second look" operations here has been of great value in converting this boy from a cancer positive state which could not be recognized on physical examination to a cancer-free state. This has been accomplished even though the hepatic carcinoma was invasive and widely metastatic. I believe this boy is free of tumor and probably cured only because he accepted the idea of repeated "second look" operations.

Esophageal Carcinoma

(Continued from page 278)

treated with radiation following insertion of the tube.

Since the tube can become obstructed by particles of solid food, it is important to maintain the patient entirely on liquids and soft foods following insertion.

Most of the other endoscopically inserted intraluminal tubes which have recently been described require simultaneous gastrostomy for placement of the tube.⁶ The Souttar tube can be inserted entirely by esophagoscopy.

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Gout

(Continued from page 284)

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PATIENT CARE TO BE DISCUSSED AT A.M.A. CONVENTION

"Joint Planning of Patient Care by Physicians and Nurses in the Hospital and Home" will be discussed in San Francisco June 24 during the 113th annual convention of the American Medical Association.

The 90-minute discussion, sponsored by A.M.A.'s Committee on Nursing, will be held in Room D of the Civic Auditorium as a part of the convention's scientific program.

Jeanne C. Quint, R.N., assistant research sociologist, University of California, San Francisco Medical Center, will present to the nurse-physician audience a formal paper on the subject. Following the presentation a "reacting panel" will offer its views.

Concluding remarks will be made by Helen Nahm, R.N., Ph.D., San Francisco, the panel moderator, and Arthur A. Kirchner, M.D., Los Angeles, Chairman of the sponsoring Committee.

Additional information may be obtained by writing: Department of Nursing, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

The President's Message

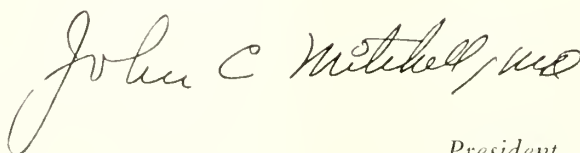
DEAR DOCTOR:

The Society had an excellent meeting in Topeka a few weeks ago. The program was impressive, there were more exhibits than I recall for several years, all events were well planned and executed on schedule. The Shawnee County Medical Society did a splendid job for which we all thank the committee and everyone who participated to make this possible.

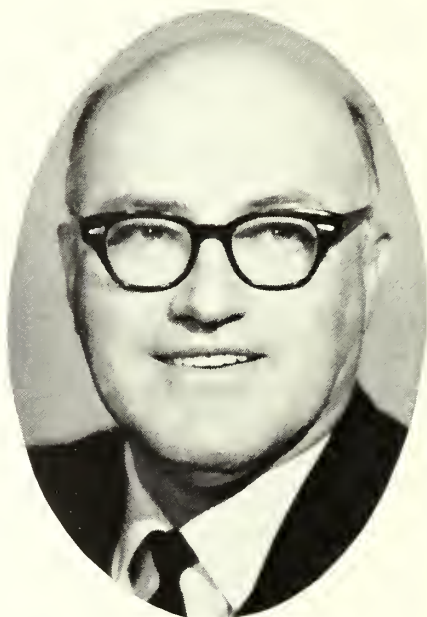
Dr. Clair O'Donnell gave us a completely enjoyable banquet program and performed an outstanding service through his direction of the business affairs of the Society. The painstaking care taken by the Reference Committees permitted the House of Delegates to proceed with surprising efficiency through a heavy agenda.

Next year, May 9-12, the Society will meet at Hutchinson. The Reno County Medical Society has already planned many of the features so I know this also will be an interesting and enjoyable meeting. You will want to place these dates on your calendar at this time and I hope you will attend the Annual Session next May.

Sincerely,

A handwritten signature in cursive script that reads "John C. Mitchell, MD". The signature is fluid and elegant, with the "MD" at the end being slightly more distinct.

President



Official Proceedings

Report of the 1964 Meeting of the House of Delegates

The transactions of the 105th Annual Session are published in this issue of the JOURNAL.

Resolutions were introduced at the first House of Delegates meeting. All resolutions were referred to the Reference Committees and appear in the minutes of the second House of Delegates meeting as they were adopted. Resolutions failing to pass are retained in the minutes at the Executive office, but are not recorded here.

First Session

The first session of the House of Delegates was held at the Hotel Jayhawk, Topeka, Kansas, beginning with a breakfast at 7:30 a.m., on Monday, May 4, 1964. One hundred and forty-two members were present.

The meeting was called to order by H. St. Clair O'Donnell, M.D., President. Dr. O'Donnell expressed his gratitude for the excellent representation by the county societies at this meeting. After introducing several guests, including Ben Adsett, M.D., of Brisbane, Australia, he asked Leland Speer, M.D., Secretary, to present the minutes of the last regular meeting and also the special meeting held in December, 1963.

The primary election was then held with a vote on all offices with more than two candidates. The election of officers for all positions will be held at the second House of Delegates.

John C. Mitchell, M.D., President-elect, announced that committee assignments were almost completed and that the response by the members expressing their willingness to serve on committees was so great that committees will be considerably expanded. He stated he would retain the chairmanship of the Committee on Welfare. Doctor Mitchell also stated he anticipated problems arising this year with reference to the legislature and he hoped the members would cooperate to make the year a successful one.

REPORT OF THE CONSTITUTIONAL SECRETARY

Following is a summary of the Membership Report of the Kansas Medical Society for 1964:

Dues-Paid Members	1,482
Honorary Members	144
Emeritus Members	13
Leave-of-Absence Members	38

In-Service Members	4
Delinquent Members	169
Total	1,850

LELAND SPEER, M.D., Secretary

The membership in 1963 was 1,848. The 1964 membership represents an increase of two members. John L. Lattimore, M.D., Treasurer, then presented an analysis of the preliminary audit of the Society finances and explained some of the major items of expense and income.

President O'Donnell then asked E. Burke Scagnelli, M.D., President, Kansas Blue Shield, to report on Blue Shield. He read the following report.

BLUE SHIELD

More than mere protocol requires that I make some remarks at this time to this Assembly. Each year at this Delegates' meeting a brief period is allotted for a report from the President of Blue Shield. This is not done solely as a matter of courtesy to Blue Shield, or to create some honor for its president. There are more important reasons. This very body constitutes the seat of power of the medical profession in Kansas. And you, as the responsible representatives of the local societies, hold the power to direct what happens at Blue Shield. Blue Shield itself is the true example of an anomaly—although a self-contained and separate corporation, its governing Board of Directors yield their ultimate authority to an outside agency—this body. Hence the House of Delegates is, in fact, not only the original creator but also the continuing decision-maker for the Kansas Physicians' Service.

I am not inclined to speak of statistics—enrollment figures and the like. I come to you today to speak briefly of major accomplishments of the past year. The Second Annual Symposium held in Wichita brought together some 90 physicians from across the state to discuss policies and problems of the day. The major talk was given by Dr. Norman Welch, President-elect of the AMA.

Another important step of the past year was the concentrated educational program directed toward the legislators of Kansas. This, I believe, was a most influential move and should bear fruit in the coming months.

Still another innovation was instituted. Regular, short, monthly reports have been sent direct to each

local medical society so as to bring first hand news of any information of interest to physicians. This has proved to be a most effective route of communication between Blue Shield and physicians.

A new method of election to the Blue Shield Board has been inaugurated—by actual ballot choice of candidates in each Councilor District.

A new medical coverage policy has been worked out at the request of and with the cooperation of the Riley and Geary county medical societies. This program will be well worth watching by all of us. It has NO fee schedule but rather pays the customary fee ordinarily charged by the physician

These are some of the highlights of the past year.

For several years those of us on the Blue Shield Board have noted with mild interest that there is some growth in coverage for dental services. This has taken place mostly on the east and west coasts. There is now a certain momentum gathering in the development of dental plans. About 18 months ago Blue Shield asked the Kansas State Dental Association if they wished to explore with us the possibility of developing a dental rider. As a result we now have a tentative plan drawn up. It is our feeling that Blue Shield will be benefited by being able to offer certain large groups a dental rider when interest develops in this kind of coverage. The growth of such a program will be extremely slow. Nevertheless, dental programs will be introduced. The dentists themselves would prefer to work with Blue Shield and have been extremely cooperative. However, in some states they are allying themselves with commercial insurance.

We feel it is to the long-range advantage of Blue Shield to develop a dental rider and to secure the support of Kansas dentists. A resolution supporting development of such a rider will be acted upon by this House.

By far my greatest task for today comes now as I seek your guidance and decision on a major policy matter. What is done here is important to the future of medicine and to the health care of the people of our state. Ideas can be encouraged here . . . ideas can be killed here.

On this same occasion last year I mentioned briefly the possibility of Blue Shield constructing a Deferred Compensation Plan. Since then it has been presented to and recommended by the Medical Economics Committee of this Society which, in turn, prompted the House of Delegates in a resolution last December to urge that Blue Shield continue to study the plan and to bring it today before this House of Delegates for action.

As I see it, the plan as now presented should produce a most beneficial bond between Blue Shield

and its Participating Physicians. It should provide the physician with visible and tangible evidence that Blue Shield is indeed interested in the physicians' welfare, and is appreciative of the compromises with personal independence which must result when any group so dedicates itself as a body to better serve the public. This plan by actually strengthening the bond with the physicians would, at the same time, enable Blue Shield to more assuredly deliver the high grade of medical service it has pledged to the people of Kansas. I do not hesitate to say that a legitimate effort to help doctors will help Blue Shield; and what's good for Blue Shield is good for the public.

Details of this Deferred Compensation Plan have been brought to every Kansas Participating Physician by a recently mailed brochure. It has been discussed by about 170 physicians in Blue Shield Relations Committees; it has been presented to about 200 physicians during KU Circuit Courses and to another 90 physicians at the Symposium. It has also been presented to several large county societies and has been written up twice in the JOURNAL OF THE KANSAS MEDICAL SOCIETY. Probably Blue Shield has never worked harder to bring any proposal to the attention of all physicians.

There is no doubt in my mind that the program will be of benefit to physicians. It is simple arithmetic that a tax sheltered deferred compensation plan will provide significant, legitimate tax savings to each of us.

Here is an example of the tax gain under the Deferred Compensation Plan.

A doctor, age 45, filing jointly with \$44,000 taxable income and \$4,000 deferrable income would pay around \$14,900 (1964 tax rates) on the \$44,000 and about \$19,000 on the total \$48,000. Thus the additional \$4,000 is taxed in the amount of \$2,100. This leaves \$1,900 after-taxed dollars for investment which, over a period of 20 years, would amount to an investment fund of \$38,000. If fully deferred, this could be \$80,000 (20 years @ \$4,000)—plus the benefit of being taxed at a lesser rate after age 65, also no tax on the income from investment for the 20 years.

There are three or four points which call for highlighting:

First, *it must be mandatory* and apply to ALL participating physicians. If not it loses the very soul of its structure, and becomes nothing but a voluntary and optional savings/investment program and hence with no tax effect.

Second, it can apply *only* to self-employed physicians who have the free and personal right to participate or not. In no way could it ever stand between a physician and his employer.

Third, money withheld will be placed in a Trust Agreement so that there will be no connection between these funds and Blue Shield's reserves.

Fourth, a minimum of 5 per cent of Blue Shield compensation payments would be withheld, except that a minimum of 2 per cent will be withheld in the case of physicians practicing under contractual arrangements. Anything less withheld would be meaningless and destroy the intent of the Plan.

Did you know that 30 per cent of Kansas physicians receive less than \$60 a year from Blue Shield—this would mean withholding \$30 a year. For others it might mean up to \$60 a month.

Finally, a physician must participate in all Blue Shield Plans available in his area—when approved by his local medical society. This may be a stumbling block for some physicians, but only for those who fail to accept such approval by their local society. Is this too much to ask? Just as there can be no degrees of citizenship, there should be no levels of participation in Blue Shield. I might say here that if American medicine could offer in every part of our country the kind of high grade service benefit program which our best Blue Shield plans now offer in certain areas of Kansas, we would have a program so adequate and so responsive to the needs of the public that we would be absolutely impregnable to any effort to enact national compulsory health insurance.

The potential good for the public that a Participating Physician can accomplish is inestimable—and this potential good must be of such stature that the physician can be in concert with it wholly and without qualification or equivocation.

This, in essence, is why Blue Shield hopes you will give resounding approval to the Deferred Compensation Plan. I am confident that those of you in this House who recognize that Blue Shield is a valuable asset to the medical profession—as well as a responsible obligation of doctors to the public—will take a positive stand. I am confident you will exercise your power with care and responsibility.

It would be remiss of me to close without pointing out how much we all owe to Doctor Schmidt and other members of the Blue Shield Relations Committee for their cooperation and support in these matters.

E. BURKE SCAGNELLI, M.D., *President*

REPORT OF THE EDITOR

As I have been each year, I am again indebted to many people for doing the work which makes a JOURNAL possible—work for which the Editor often gets credit not due him.

Mrs. Mary Rogers, our congenial and efficient Managing Editor, has, each month, done the day-to-day tasks necessary to finally get a publication in the mail. A good deal of this work is of a nature which

receives little glory, but is absolutely essential, and it is because it has been done promptly and efficiently that you have received your JOURNALS. Her work is of the highest caliber, and her personality makes the JOURNAL office a delightful place—even when she is calling me to task for being behind in my work. We are indeed fortunate to have such a fine person as Mrs. Rogers on our staff.

I have repeatedly reported to you of the excellent cooperation and guidance furnished by the members of the Editorial Board, consisting of Drs. David E. Gray, Richard Greer, Dwight Lawson and John A. Segerson. The members of the Board do much more than review papers for publication; they have furnished real leadership in every venture we have undertaken, and any failures to accomplish our goals are not due to these members of the Board. They are all interested in making the JOURNAL as useful as possible to all of you.

The contribution of Dr. Jesse D. Rising, the Associate Editor at the University of Kansas School of Medicine, has been truly amazing. One wonders how a man as busy as he, directing the postgraduate program of the University School of Medicine, can find the time to do all he does for us. The KUMC issue in March is evidence of his influence among his conferees, and there are many other contributions from the school, a great deal of which goes through his hands. We are most grateful that Doctor Rising is willing to do so much for the JOURNAL, and for the membership of the Society.

Oliver E. Ebel, our Executive Secretary, serves on the JOURNAL staff also—officially called the Business Manager, but actually preparing much of the Editorial Comment, and other of the non-scientific features of the JOURNAL. You know of his work for the Society, and he does a great deal for us also.

Finally I am indebted to those who have helped with the preparation of our special issues—Dr. Ernest W. Crow of Wichita for the November "American College of Physicians Issue," and Dr. H. G. Whittington, of Lawrence, for the January "Psychiatric Issue."

What is the future of the JOURNAL?—and in fact most state journals? This is a question with many facets, and one which is being asked in other states also. The future prospect for state medical journals has been a topic of discussions in most of the editorial meetings which I have attended in recent years, and there is no simple answer. Some of the state journals have a real financial problem, which fortunately has not been a problem for us as yet, but there are others besides finances.

Should the JOURNAL continue with a scientific section, or become only a "bulletin" for Society news

and announcements, medico-economic and medico-legal news, and the like: Or, even more radically, should it continue at all? What is the place for the JOURNAL and how can it best fill it?

It is common knowledge that we (and by "we" I mean nearly all state journals except those of large population states) are having increasing difficulty in obtaining good scientific material for publication. I have reported to you about this before. There are probably many reasons for this change, but I can mention several which I am sure apply.

Twenty and thirty years ago we had papers from all speakers at our Annual Session, when there were more speakers and each gave two or perhaps more talks. In fact our By-Laws state that speakers at the Annual Session are to submit manuscripts of their talks! But how many speakers today want to do so? You know the answer to that as well as I. Some will even say that they will not come if they have to write a paper. What about recording the talks on tape and transcribing them for publication? Occasionally this is a way of getting a satisfactory paper, but often is a complete failure, for a talk given from slides makes little sense if you don't see the slides and the movements of the pointer. An excellent *talk* does not necessarily make an interesting *written* presentation. We must accept it as a fact, that our Annual Sessions cannot be relied upon as a source of a significant number of papers. Last year we were more fortunate than for several years, but it will not often be so.

Another reason for shortage of papers being submitted to state journals is the understandable desire for an author to have his paper in a journal with national circulation, and particularly the specialty journals. Often specialists, and particularly the younger ones, forget that the publicity and recognition among their associates in nearby areas, gained from articles published in state journals, might be more valuable than from national ones. It would reach those that might be, for example, a source of referrals.

A third reason for not submitting papers is—let's face it—that we say we are too busy to write papers. It is true that the pace of the modern world has seemed to make everyone busy, but a look around will show that a good share of the outstanding articles in journals are written by busy men. Someone has said that if you want something done, ask a busy man to do it for you. Sir William Osler was certainly a busy man all the time, yet found time to record many interesting things for us. Of course we are not all Oslers!

What are the answers? One, perhaps the simplest, would be to give up, and to eliminate the scientific section of the JOURNAL. Some other solutions have been proposed, and I will mention them briefly.

1. Solicited articles, either as single articles, or as a group in "symposium" style. In this instance a physician would be asked to write an article on a specific subject, specifically for JOURNAL publication. This usually requires from nine months to a year from request to publication, but it is a widely used procedure.

2. Review-type articles. These, again, are specially prepared for this type of journal, and explore a subject in depth, as for example a discussion of various aspects of jaundice. It would basically be a summary of current opinions about the subject, and not a contribution of new discoveries.

3. Reports of meetings or postgraduate courses from within the state. This is subject to some of the problems encountered in the use of papers recorded from Annual Sessions, but it *can* be a useful source of material, as witness our last two November issues devoted to the papers from the regional meeting of the American College of Physicians. We have talked about making use of some of the presentations at the postgraduate courses at KUMC, but so far have not done much about it. There are certainly a good number of presentations which would be valuable JOURNAL material.

4. A scientific article, or even an entire section, to be shared and published simultaneously by several state journals. This was actually proposed at the meeting of the State Medical Journal Advertising Bureau last October.

5. Brief case reports. These can be informative and interesting, and they can be written without a large investment of time since no review of literature is involved. There are most assuredly many interesting case reports from the state—except that they are not being written! They *could* be useful, and several could be published each month, if they were available.

I certainly do not have ready answers to give you for these questions. I am, in fact, going to ask you to help me find the answers. The JOURNAL has this year, for the first time, an exhibit among the Scientific Exhibits, and we have made provision for you to help us learn what you think. After all it is your JOURNAL, and the Editorial Board is anxious to try to carry out your wishes. I hope that each of you will stop by at some time during the meeting, and urge others to do so too. It will help to determine our future.

Finally I am authorized to announce that the JOURNAL is offering a prize of \$250 for the best paper submitted for publication in the JOURNAL in the next year. It is open to any contributor, and without restriction of subject, except that it be related to the practice of medicine. Further details will be

published in an early issue of the JOURNAL, probably in June. We hope we will have many papers to consider.

Respectfully submitted for the Editorial Board
ORVILLE R. CLARK, M.D., *Editor*

Doctor O'Donnell announced he had appointed two reference committees who would review all resolutions to be introduced and that every physician was invited to attend these hearings and to speak on any in which they had an interest.

The Reference Committee on Reports consisting of Drs. Leland Speer and Francis T. Collins was called upon to introduce resolutions prepared from reports of officers, councilors and committees.

The President then announced that Districts 2, 4, 11, 13, 14 and 15 would need to hold a caucus to select a councilor and that the result of their meeting would be announced at the second session of the House of Delegates.

Second Session

The second session of the House of Delegates was called to order by the President, H. St. Clair O'Donnell, M.D., on Wednesday, May 6, 1964, at the Hotel Jayhawk, Topeka, at 2:30 p.m., following a general luncheon.

The tellers reported the election results as follows:

PRESIDENT-ELECT: George E. Burket, Jr., M.D., Kingman

FIRST VICE PRESIDENT: James A. McClure, M.D., Topeka

SECOND VICE PRESIDENT: George F. Gsell, M.D., Wichita

CONSTITUTIONAL SECRETARY: Leland Speer, M.D., Kansas City

TREASURER: John L. Lattimore, M.D., Topeka
AMA DELEGATE: Lucien R. Pyle, M.D., Topeka
ALTERNATE AMA DELEGATE: J. Warren Manley, M.D., Kansas City

The caucus of the Council districts announced the selection of the following to serve as councilors from their respective districts:

District No. 2—James G. Lee, Jr., M.D., Kansas City, was elected to a three-year term.

District No. 4—Henry K. Baker, M.D., Chanute, was elected to a three-year term.

District No. 11—Ernest W. Crow, M.D., Wichita, was elected to a three-year term.

District No. 13—Abraham M. Cherner, M.D. Hays, was re-elected for the second three-year term.

District No. 14—Clair J. Cavanaugh, M.D., Great Bend, was re-elected to another three-year term.

District No. 15—Evan R. Williams, M.D., Dodge City, was re-elected to another three-year term.

The election of the Nominating Committee resulted

in the following: Norton L. Francis, M.D., Wichita, Chairman; Conrad M. Barnes, M.D., Seneca; Clarence H. Benage, M.D., Pittsburg; Thomas P. Butcher, M.D., Emporia; Laurence S. Nelson, Sr., M.D., Salina; and Henry N. Tihen, M.D., Wichita.

It was announced that several members of the press, radio and television were present. The President asked the House whether they should be invited for the meeting. A motion was made and carried that Mr. Ray Morgan of the Kansas City *Star*, Mr. John Beatty of WIBW and Mrs. Stannie Anderson of Stauffer Publications be invited to stay for the meeting.

RESOLUTION NO. 1

Parliamentary Procedure

WHEREAS, the Parliamentarian has performed an excellent service in the preparation of a guide to govern deliberations in the House of Delegates of the Kansas Medical Society, therefore

Be It Resolved, that this shall be made available annually to the delegates at every session of the House of Delegates.

RESOLUTION NO. 2

Councilor Reports

WHEREAS, the councilors have submitted interesting and constructive reports concerning medical activities within the various Council Districts, which are published in the handbook, therefore

Be It Resolved, that the councilors be voted an expression of gratitude for their contributions to this Society, and

Be It Further Resolved, that the councilor reports be approved.

RESOLUTION NO. 3

Committee Reports

WHEREAS, your Reference Committee on Reports has studied the reports on all committees in the handbook and has prepared from these reports resolutions as recommended by the various committees, which will be separately introduced, and

WHEREAS, committee reports as published in the handbook are interesting to read and contain much constructive material, and

WHEREAS, these reports give indication of an active year by many of the Society committees, therefore

Be It Resolved, that the reports of the committees be approved.

RESOLUTION NO. 4

Conferences With Nurses and Pharmacists

(Resolution No. 4 followed an outline by the Committee on Allied Groups recommending a series of

joint conferences with nurses and another series of joint conferences with pharmacists.)

Be It Resolved, that the Committee on Allied Groups be authorized to continue working with nurses and pharmacists as outlined in the committee report.

RESOLUTION NO. 5

Deferred Blue Shield Compensation

WHEREAS, Kansas Blue Shield has developed a Deferred Compensation Plan which will provide Participating Physicians with an opportunity to prepare for future retirement or disability and which will serve the public through more active participation by physicians, and

WHEREAS, Deferred Compensation funds will be placed in a Trust Agreement with a required minimum from the payments to each Participating Physician of five per cent (5%) of Blue Shield payments, and a minimum of two per cent (2%) Blue Shield Payments for those with contractual arrangements, and

WHEREAS, the success of the Deferred Compensation Plan depends upon the active support and interest of a majority of physicians, and a new Participating Physician Agreement will be executed with each physician which will encompass the Deferred Compensation Plan and an agreement to participate in, or sponsor, all Blue Shield Service Benefit Plans approved by the Kansas and the local Medical Society having jurisdiction over the county in which he practices, and

WHEREAS, the Blue Shield Board has developed the Deferred Compensation Plan at the direction of the House of Delegates and with the assistance of the Medical Economics Committee, specialists in this field, and the Committee on Blue Shield Relations, therefore

Be It Resolved, that the Deferred Compensation Plan be implemented by Kansas Blue Shield if new Agreements are executed by 75 per cent of the present participating physicians who are eligible to qualify for the plan, and

Be It Further Resolved, that physicians are encouraged to give this plan careful consideration and to participate in Blue Shield.

RESOLUTION NO. 6

Blue Shield Dental Services Rider

WHEREAS, a major goal of Kansas Blue Shield is continued growth of membership, and

WHEREAS, public interest is beginning to develop in prepaid dental care, as indicated by the development of prepayment programs in other states, and

WHEREAS, Kansas Blue Shield is in a position to

develop an optional Dental Services Rider for employee groups with the cooperation of the Kansas State Dental Association, which may result in attracting new subscribers to Blue Shield or providing present subscribers with a program which will help retain interest in basic Blue Shield programs, and

WHEREAS, The Blue Shield Relations Committee has considered the favorable reaction of a majority of the District Committees and noted that various other experimental plans have been beneficial to the medical profession and the public in Kansas, therefore

Be It Resolved, that the Kansas Blue Shield Board may develop optional pilot programs for group subscribers for prepayment of dental services with the permission of the Kansas Medical Society.

RESOLUTION NO. 7

Child Abuse

WHEREAS, there is an apparent increase in Kansas of physical abuse of children by parents, or other persons responsible for their care (according to the Child Welfare Committee survey of physicians, 50 cases occurred in 1962 and 1963), and

WHEREAS, many of these children have died or suffered permanent brain injury, so that child abuse often constitutes a medical emergency, and

WHEREAS, parents often change physicians and hospitals to avoid suspicion, and

WHEREAS, physicians have been reluctant to report to the proper "police" authority for the following reasons: cases are often suspected only, and the physician is unable to investigate all the circumstances, and fear of liability suits, and

WHEREAS, the medical personnel often are the first to have reasonable cause to suspect inflicted injuries in the very young child which is the age group with the majority of cases, and

WHEREAS, present laws do not specifically require reporting by medical personnel, nor specify immunity from liability for such reporting, and

WHEREAS, the Child Welfare Committee recommends special legislation in Kansas concerning the abused child as passed by other states in recent years, therefore

Be It Resolved, that the Kansas Medical Society recommend legislation for consideration by the 1965 Legislature to require reporting by physicians, nurses and hospitals when there is reasonable cause to suspect inflicted injuries to children under 18 years of age to the juvenile court, police authority or child protective agencies and to provide immunity from liability for such reporting, and

Be It Further Resolved that the Child Welfare Committee be requested to develop this proposed legislation.

RESOLUTION NO. 8**Speaker for House of Delegates**

WHEREAS, in order to implement the organization of the House of Delegates of the Kansas Medical Society so that there may be a better regulation of the business to be conducted by the House of Delegates, and

WHEREAS, it is proposed that the Constitution and By-Laws of the Kansas Medical Society be changed to include the election or appointment of a Speaker of the House of Delegates and a Vice-Speaker of the House of Delegates, and

WHEREAS, the duties of the Speaker and Vice-Speaker of the House of Delegates shall be to conduct the annual meetings of the House of Delegates or any special sessions of the House of Delegates of the Kansas Medical Society, and

WHEREAS, the duties of a Speaker and Vice-Speaker are set forth in the rules of parliamentary practice, therefore

Be It Resolved, that this House of Delegates approve the inclusion of a Speaker and Vice-Speaker of the House of Delegates as officers of the Society, and

Be It Further Resolved, that the term of office shall be the same as any elected official of the Kansas Medical Society, and shall be determined by the Committee on Constitution and Rules of this Society when the constitutional change is implemented, and

Be It Further Resolved, that the president appoint an interim Speaker and Vice-Speaker of the House of Delegates at the close of the 1964 annual meeting to serve until this constitutional change can be implemented.

It was moved that a substitute resolution be submitted for Resolution No. 8. The substitute resolution carried reading as follows:

RESOLUTION NO. 8**Speaker for House of Delegates**

Be It Resolved, that this matter be referred to a joint meeting of the Plans and Scope, and Constitution and Bylaws Committees for presentation as a constitutional amendment at a special House of Delegates meeting in January.

RESOLUTION NO. 9**Visual Standards for Drivers' Licenses**

WHEREAS, The Kansas Legislature has directed the Legislative Council to study the question of preparing standards for drivers' licenses, and

WHEREAS, The House of Delegates in 1963 passed a resolution asking five (5) committees including the

Committee on Conservation of Eyesight to prepare health standards for the issuance of drivers' licenses that might be reasonably enacted and enforced as law, therefore be it

Resolved, that the following standards and procedures shall be those recommended by the Kansas Medical Society on the subject of eyesight:

1. A visual examination should not be used alone to decide a driver's qualifications but must be a part of a general examination.

2. Periodic driver examinations should be required at 50-60-65 years of age and every two years after age 65.

3. A screening test for visual acuity should be given by the Vehicle Licensing Department and should not require better vision than the minimum requirement for licensure. For this purpose it is recommended that a test considerably easier to administer than the Snellen Chart will produce equally valid results. It is recommended that a set of 20 symbols such as highway signs be prepared and if the applicant is able to recognize 18 of 20 when viewed with adequate light at a 20/50 level, they will have successfully passed the screening examination.

4. Applicants with 20/50 or better (with or without correction) will have passed the visual acuity requirements for licensure.

5. Applicants with 20/60 with correction will be given restricted licenses and the restriction may be removed following examination and recommendation by the physician.

6. Applicants with 20/70 will first be required to have an eye examination after which a restricted license may be given.

7. Applicants with vision of less than 20/100 with correction will be considered on an individual basis. Following an examination and if recommended by a local advisory committee, the Vehicle Department may at its discretion issue a restricted license.

8. On field loss the minimum field shall be subtend 20° diameter, either 5 mm with a white target at 330 mm distance or 15 mm with a white target at 1,000 mm distance.

One-eyed drivers and those with field loss should be required to have properly placed mirrors in the car.

10. The definition for legal blindness as established by the Internal Revenue Service shall be considered the minimum standards below which no drivers' license may be issued.

11. It is recommended that the motor vehicle to be driven by a person with a severely restricted license be required to carry a special automobile license for the benefit of law enforcement officers.

12. The Committee on Conservation of Eyesight volunteers its services on a local and state level to the Motor Vehicle Department as advisors in the field of visual acuity and agrees to perform such services at the request of the Motor Vehicle Department without remuneration. It is suggested that the membership for the advisory committees at the local and state levels might include the following:

- Internist
- Psychiatrist
- Ophthalmologist
- General Practitioner
- Optometrist
- Attorney
- Clergyman

RESOLUTION NO. 10

Cigarettes

WHEREAS, the weight of scientific evidence implicates cigarette smoking as one of the principal causative factors in lung cancer and a contributing factor in cardio-vascular and chronic pulmonary diseases; therefore

Be It Resolved, that the House of Delegates of the Kansas Medical Society formally recognizes these associations and recommends that its members cooperate in bringing this information to the people of Kansas.

RESOLUTION NO. 11

Kansas Female Genital Tract Cancer Death Study

WHEREAS, in November 1961, a total of 2,300 plus "Pap" kits and brochures were mailed to physicians and osteopaths in Kansas, as well as to each of fifty state health departments and territories in the United States, and

WHEREAS, this program has received National recognition as an educational device, and was well received by the physicians of Kansas as attested to by the passage of Resolution No. 22, by the House of Delegates at the annual meeting of the Society in 1962, and

WHEREAS, reports now being received from pathologists of private laboratories indicate a marked increase in the number of physicians performing "Pap" smears for the early detection of cancer of the female genital tract, and

WHEREAS, the deaths from cancer of the female genital tract, although showing a reduction of 30 cases over the year 1961, and totalling 230 deaths for 1962, indicates a need for a further program of education, and

WHEREAS, increased education can be attained

only by determining the facts incident to the death of an individual from cancer of the female genital tract, and from these facts develop an educational program that will result in further reduction of such deaths, therefore

Be It Resolved, that a Kansas Female Genital Tract Cancer Death Study be instituted to determine the circumstances surrounding death from cancer of the female genital tract. Such questionnaires to be filled out by each physician whose patient dies from cancer of the female genital tract. Data included in the questionnaire would be the histopathological diagnosis, date of diagnosis, means of diagnosis, duration of symptoms, reason for delay in diagnosis, initial course of therapy, subsequent therapy, and complications incident to therapy, therefore

Be It Further Resolved, that the House of Delegates recommend that physicians in Kansas participate in a study "Kansas Female Genital Tract Cancer Death Study," and further, that information obtained from such study be used to devise educational programs supervised by the Committee on the Control of Cancer of the Kansas Medical Society, in cooperation with the Kansas Division of the American Cancer Society, the Kansas State Board of Health, and the Kansas Section of the American Association of Obstetrics and Gynecology.

RESOLUTION NO. 12

Blue Shield

The purpose of Resolution No. 12 was accomplished through the passage of Resolution No. 5; therefore, no action was taken.

RESOLUTION NO. 13

Hospital Costs

WHEREAS, there is wide public and professional misunderstanding and lack of understanding on the subject of hospital costs, and

WHEREAS, the Kansas Hospital Association has invited the medical profession to meet with a special committee of hospital administrators to explore this subject, and

WHEREAS, the Committee on Hospitals has held a preliminary meeting with the Hospital Association on this subject, therefore

Be It Resolved, that the House of Delegates authorize the Council to plan with the Kansas Hospital Association a conference on hospital costs to which shall be invited:

- Kansas Blue Cross
- Kansas Blue Shield
- Kansas Health Facilities Information Service
- Kansas Medical Society

Kansas Hospital Association
 Kansas Council on Standards for Hospitals
 Kansas Section of American College of Physicians
 Kansas Section of American College of Surgeons
 Kansas Section of American Academy of General
 Practice

Kansas Society of Radiologists
 Kansas Society of Pathologists
 Kansas State Board of Health

And such other responsible groups as may be concerned with this problem.

RESOLUTIONS NOS. 14 AND 50

Society Boundaries

WHEREAS, we recognize that inequities in the councilor districts have developed due to population shifts, therefore

Be It Resolved, that this matter be referred to the Plans and Scope Committee for suggested resolution to be submitted to the next House of Delegates meeting.

RESOLUTION NO. 15

Revocation of Membership

WHEREAS, it is rarely necessary for the Board of Healing Arts to revoke a license of a physician, and

WHEREAS, when this occurs such physician is no

longer eligible for membership in the Kansas Medical Society or a component society in the state according to the definition of membership in the Constitution and By-Laws, and

WHEREAS, the Constitution and By-Laws do not specifically define a means for revoking the membership of such physicians when they become ineligible by reason of the loss of their license, therefore

Be It Resolved, that the Committee on Constitution and Rules be authorized to prepare the necessary language whereby a component society and the Kansas Medical Society shall immediately terminate the membership of a physician whose license is revoked and that dues for the current year—if they are paid—shall be retained by the respective societies, and

Be It Further Resolved, that action to accomplish this shall be considered an amendment to the Constitution and By-Laws with the adoption of this resolution.

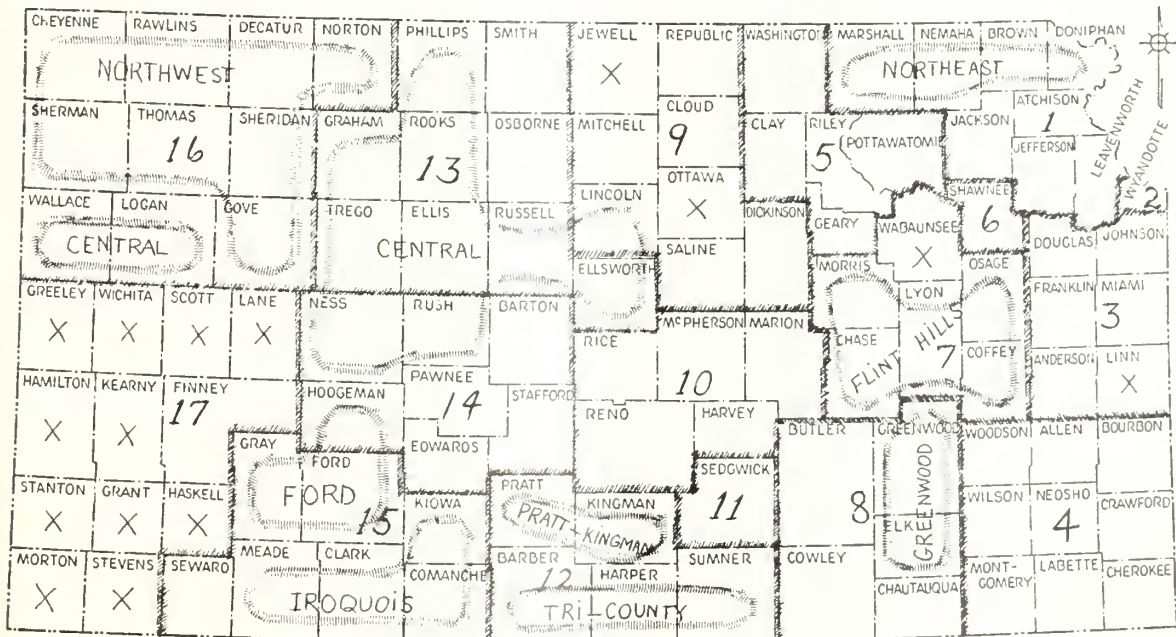
RESOLUTION NO. 16

Attendance at Council Meetings

WHEREAS, an occasional councilor finds it impossible to attend meetings of the Council which results in that district losing the information the councilor might have reported had he been present, therefore

Be It Resolved, that the Constitution and Rules

COUNTY MEDICAL SOCIETIES and COUNCIL DISTRICTS



X - Physicians affiliated with neighboring Societies

Committee be authorized to prepare amendments to the Constitution and By-Laws which will direct the delegates of each Councilor's district to elect a councilor and an alternate with voting privileges to serve when he cannot attend, and

Be It Further Resolved, that the secretary of each component society be notified when a councilor or his alternate do not attend meetings of the Council.

RESOLUTION NO. 17

Basic Policies on Relative Values And Fee Schedules

WHEREAS, the Relative Value Scale is not a fee schedule but exactly what its name implies, a document attempting to establish a relationship between the relative worth of professional procedures, and

WHEREAS, a Relative Value Study must be a fluid document under constant attention and regularly revised, and

WHEREAS, the American Society of Internal Medicine has stated seven basic points relating to the practice of medicine and fee schedules which were discussed by the Committee on Fee Schedule, therefore

Be It Resolved, that the following statement of basic principles be adopted by the Kansas Medical Society:

1. The right of every doctor to set his own fees must be preserved. This right carries with it a responsibility to patients and colleagues that these fees be within reason and do not reflect discredit upon the profession as a whole.

2. A doctor's fee cannot be set without his consent.

3. A doctor's right to refrain from participation in medical care programs with or without a fixed fee schedule should be preserved.

4. Fee schedules should be based on surveys of existing fees. It has been found that most doctors have usual fees for any services which they rarely exceed and more often reduce.

5. Fee schedules should be based on value of service rendered with consideration of cost of providing the service.

6. Fee schedules should be based on usual fees and not on income ceilings except in special circumstances where the individuals or groups with low incomes are financing their own medical care.

7. Fee schedules should reflect local, usual and customary fees to the greatest extent practicable.

RESOLUTION NO. 18

Revisions of the Kansas Relative Value Studies

WHEREAS, there is a need for revising the Kansas Medical Society Relative Value Studies, therefore

Be It Resolved, that the Committee on Fee Schedule be authorized to revise the Kansas Relative Value Studies upon the following formula:

1. That the point values for each listed procedure shall reflect as closely as possible the average normal charges when converted by a factor of \$5.

2. This will relate each procedure to all others and where normal charges are contemplated a single conversion factor may be utilized for all items. However, if this document is to be utilized as the basis for construction of a fee schedule, conversion factors may vary between the different sections.

3. Point values relating to Anesthesia shall be listed in an additional column. Each item will be evaluated on a basis of points which relate to the hazard of the procedure plus time. But all anesthesia point values shall when converted by a factor of \$5 reflect the average normal charge made in this state.

4. The internists' section shall be revised to give point values for a series of office medical services, home medical services, hospital medical services, consultation services and prolonged detention care. Points shall be adjusted so they will reflect normal charges when converted by \$5.

5. The Pathology section will be replaced by substituting for the present items those appearing in the Second Edition, December 1963, Relative Value Study of the College of American Pathologists. The point values shall be corrected so they will reflect average normal charge when converted by a factor of \$5.

6. Each remaining specialty of medicine is invited to review all procedures relating to their practice and to adjust existing points whereby they will reflect the normal charges when converted by a factor of \$5.

7. When the above has been accomplished to the satisfaction of the committee, this fact shall be made known in writing to the Council.

8. If a way can be found to print this document within budget allowances, the Council is hereby authorized to publish the revised document and distribute one copy to each member of the Kansas Medical Society which will then become the official Relative Value Scale of the Kansas Medical Society.

RESOLUTION NO. 19

General Practice Award

WHEREAS, the General Practice Award Committee was established to nominate one member of the Kansas Medical Society to be considered by the American Medical Association for its General Practitioner of the Year Award, and

WHEREAS, the American Medical Association has

abolished its General Practitioner of the Year Award, therefore

Be It Resolved, that the General Practice Award Committee be abolished.

RESOLUTION NO. 20

Nursing Home Accreditation

WHEREAS, the American Medical Association is cooperating with the American Nursing Home Association in a plan for accreditation, and

WHEREAS, the Kansas Nursing Home Association has requested the Kansas Medical Society to assist in a voluntary accreditation program for the nursing homes of this state, and

WHEREAS, this accreditation program will be designed specifically for nursing homes but will be modeled after the program for hospital accreditation, therefore

Be It Resolved, that the Kansas Medical Society approve a voluntary accreditation program for the nursing homes of Kansas, and

Be It Further Resolved, that the component medical societies in this state be advised of this program toward the end that physicians may assist homes that are attempting to improve their professional services through accreditation.

RESOLUTION NO. 21

Sterilization and Therapeutic Abortion

WHEREAS, childbearing is a matter of fundamental medical importance and its effect upon the health and welfare of both mother and child is one of the prime responsibilities of the physician, and

WHEREAS, the proper execution of this responsibility may require that on occasion the fertility of a given patient be permanently interrupted or that an established pregnancy be interrupted, and

WHEREAS, the present laws of the state of Kansas relating to sterilization and therapeutic abortion do not permit the physician to exercise proper medical judgment in the management of such cases and furthermore do not, as is their intent, serve the public interest by providing adequate legal control over such matters, therefore

Be It Resolved, that the Kansas Medical Society favors the passage of such legislation as will permit such matters to be determined on the basis of sound and adequately supported medical judgment in a proper medical environment reflecting the moral and social factors under which we function, and

Be It Further Resolved, that this resolution authorize the Committee on Maternal Welfare to prepare legislation within the limits here defined and after

approval by the Council such legislation may be supported by the Kansas Medical Society.

RESOLUTION NO. 22

Physician Education

WHEREAS, emotional states are recognized as a major component of most illnesses—social and physical—moral and spiritual, and

WHEREAS, the Congress of the U.S.A. and the legislative bodies of the State of Kansas have appropriated funds and instituted procedures for the study and care of emotionally ill people, and

WHEREAS, the AMA and its constituent bodies have proposed to consider the study of emotional health as a prime target, and

WHEREAS, the members of the Kansas Psychiatric Society have proposed liaison with the members of the Kansas Medical Society, therefore

Be It Resolved, that the Committee on Mental Health be directed to continue with the implementation, and may work with representatives from the Committee on Relationships Between Public Health and Mental Health Personnel, the Committee on the Role of the Physician in Primary and Secondary Prevention of Mental Illness, social work organizations and the KNA to facilitate exchange of information regarding emotional aspects of illness and health and to study and to develop more adequate preventive treatment techniques.

RESOLUTION NO. 23

Blue Shield Retirement Fund

The intent of this resolution has been accomplished through the adoption of Resolution No. 5. Therefore, no action was taken.

RESOLUTION NO. 24

Insurance

WHEREAS, group purchase of insurance through Society sponsorship will provide physicians with protection at less cost than can be purchased individually, and

WHEREAS, every Society sponsored insurance program will also be made available to physicians who find it difficult or impossible to individually purchase such protection, and

WHEREAS, participation in any Society sponsored insurance program shall always be the decision of each individual member, and

WHEREAS, the Kansas Medical Society sponsors insurance plans as a benefit to its members and for no other reason, and

WHEREAS, this can be accomplished under circum-

stances where the Society has control of the program, and

WHEREAS, physicians lack the time to become experts on insurance details, therefore

Be It Resolved, that the Committee on Medical Economics shall, as can be accomplished in the future, prepare specifications in which shall be listed the benefits desired in the fields of sickness, accident, disability, accidental death, dismemberment, and life insurance, and

Be It Further Resolved, that the specifications include the provision that Society sponsored insurance SHALL be contracted on a group basis whereby the Society will control a master policy, and

Be It Further Resolved, that the specifications shall NEVER, unless this will be specifically voted by the House of Delegates, take from any physician any protection he now holds in a Society sponsored program, and

Be It Further Resolved, that these specifications shall be submitted to an expert or experts in insurance who shall be selected by this committee after approval by the Council, and

Be It Further Resolved, that this expert or experts in insurance be directed to negotiate with insurance carriers to obtain all benefits in the specifications on a group basis, and

Be It Further Resolved, that this committee be authorized, if all provisions contained in this resolution have been met and if the committee is confident that the insurance carrier is capable of selling and servicing the program in Kansas, to contract for group insurance which will at that time be made available to every member of the Kansas Medical Society.

RESOLUTION NO. 25

Coroners

WHEREAS, the county medical societies within each of the 38 Judicial Districts of this state, prior to January 1, 1965, shall submit to the District Judges the names of two or more persons licensed to practice Medicine and Surgery, therefore

Be It Resolved, that all component societies in this state be supplied information defining the judicial districts and the names of the District Judges of Kansas, and

Be It Further Resolved, that where more than one county medical society exists within a judicial district, they coordinate their planning in this project, and

Be It Further Resolved, that by November 15, 1964, the names selected be submitted in person to the District Judges whose term of office shall begin the following January, and

Be It Further Resolved, that the names of the

nominees shall be submitted to the Executive Office of the Kansas Medical Society for file to be presented to the Committee on Coroners.

RESOLUTION NO. 26

Assessment for Blood Bank Litigation

WHEREAS, the Federal Trade Commission has issued charges of restraint of trade against the Community Blood Bank of the Kansas City Area Incorporated, and

WHEREAS, the House of Delegates of the Kansas Medical Society recognizes blood banking as a medical service, and

WHEREAS, the Community Blood Bank of the Kansas City Area provides medical services to 16 hospitals in 12 Kansas Counties, and

WHEREAS, a number of Kansas physicians, who donated their time and effort to the non-profit Community Blood Bank of the Kansas City Area Incorporated, have been named as respondents in this action by the Federal Trade Commission, and

WHEREAS, these physicians, in defense of themselves during 15 weeks of hearings in the summer of 1963, required legal representation costing in excess of \$50,000, and further legal action will be necessary to protect the nation's system of volunteer blood donation and to maintain blood banking as a medical service, and

WHEREAS, the Johnson County Medical Society has assessed each of its members \$30 to defer legal expenses of the physician respondents and there are plans for solicitation from the American Medical Association and other local medical societies, therefore

Be It Resolved, that the House of Delegates of the Kansas Medical Society recognizes a moral obligation to assist members of the medical profession, and

Be It Further Resolved, that the House of Delegates of the Kansas Medical Society authorizes an assessment of all members for \$5.00 to assist in the payment of legal fees and costs incurred in this litigation, and

Be It Further Resolved, that the dispersal of such funds be determined by the Council of the Kansas Medical Society.

RESOLUTION NO. 27

Roster

WHEREAS, the House of Delegates in May, 1963, in Salina adopted Resolution No. 44 authorizing membership rosters to be prepared biennially and that for each member of the Society there should be contained information concerning the physician's special interest, his medical school and date of graduation, and

WHEREAS, the roster was last published January 1, 1963, therefore

Be It Resolved, that on September 1, 1964, another roster shall be published containing the above information, and any other detailed information the Council will elect, when certified to be accurate by the component society to which the member belongs.

RESOLUTION NO. 28

Membership

WHEREAS, the membership classification in Kansas does not correspond to the classification of membership in the American Medical Association and it would be desirable if this could be accomplished, and

WHEREAS, it would be desirable to increase the membership of the Kansas Medical Society for many reasons among which are the fact that every eligible Doctor of Medicine should belong to this Society, and

WHEREAS, the addition of about 150 members would give this Society a third delegate to the American Medical Association, therefore be it

Resolved, that the Committee on Constitution and Rules be authorized to revise the By-Laws of this Society with reference to the membership classification to correspond with that of the American Medical Association whereby the following categories will be established:

1. *Active Members*—This would include physicians who hold a degree of a Doctor of Medicine from a recognized medical school and who have been voted into membership by a component society within Kansas. It includes dues-paying and dues-exempt classifications who hold full membership privileges within the Kansas Medical Society and are eligible to vote and hold office.

Dues-paying members must have a valid license issued by the Kansas State Board of Healing Arts and shall hold full membership privileges within the component society through which they have been elected to membership.

Dues exemptions may be granted by the component society and will be honored by the Kansas Medical Society and the American Medical Association for one of the following reasons:

a. *Financial Hardship or Illness*—This category will replace the present leave-of-absence classification.

b. *Intern and Resident Training*—This may be granted by action of a component society and represents a temporary classification. This also replaces in part the present leave-of-absence classification; however, a new membership concept is herein introduced. A component society may vote into membership a physician who holds a degree of a Doctor of Medicine but who does not have a license from the Kansas

State Board of Healing Arts and who may not be a citizen of the United States. He may hold an associate or an affiliate membership with limited privileges within the component medical society but will have full membership privileges within the Kansas Medical Society and the AMA. His membership would be counted in tabulating the number of delegates the county medical society may have even though within the county society his membership is restricted.

c. *Retired from Active Practice*—This would replace the category now listed as honorary.

d. *Service in the Armed Forces*—This is a temporary classification applicable for the period of the member's tour of duty.

e. *Attainment of the Age of 70 Years*—This also replaces the present classification of honorary membership.

2. *Service Members*—These include the regular commissioned medical officers with the Armed Forces, the U. S. Public Health Service, Permanent Medical Officers of the Veterans Administration and those physicians who have been retired from the service by Federal law and who do not engage in active practice. These shall all hold a degree of a Doctor of Medicine and a license issued by the medical board of a state but will not necessarily hold a license to practice medicine and surgery in Kansas. Each shall be voted into membership by a component society. He may hold a limited membership within the component society but will be considered to hold full membership in the Kansas Medical Society and will be counted toward the complement of delegates allowed the component society in the Kansas House of Delegates. Service Members may be required to pay dues in a reduced amount but they will be exempt from the payment of dues in the American Medical Association.

3. *Associate Members*—This is a classification of the American Medical Association limited to members of constituent associations who are not eligible for active membership. It appears to the Committee on Plans and Scope that this classification is not necessary for this state since all physicians are eligible for membership in one of the above classifications.

4. *Affiliate Members*—The American Medical Association lists dentists, pharmacists and certain other physicians as possible AMA members. It is the recommendation of this committee that this classification not be included in Kansas.

5. *Honorary Members*—This also is an AMA classification which is not applicable in Kansas. It relates to physicians of foreign countries who attend an AMA meeting and can be elected to membership by the House of Delegates on nominations of the Board of Trustees. This classification shall not be included in Kansas, and be it further

Resolved, that if the Committee on Constitution and Rules can effect these changes, a copy of the proposed amendments be mailed to each component society in this state and that not earlier than thirty (30) days thereafter a special session of the House of Delegates be called for the purpose of acting upon such changes in the By-Laws.

RESOLUTION NO. 29

Membership

WHEREAS, your committee has studied various considerations regarding membership, therefore be it

Resolved, that the local constituent societies be urged to adhere to the same wording, definitions and requirements for members as will be eventually listed in the Kansas Medical Society Constitution and By-Laws and in turn conforming to the AMA definitions and requirements, and be it further

Resolved, that an orientation program for new members whatever their category may be, be initiated with the cooperation of the Kansas Medical Society and the local constituent society and that at least a six (6) months probational period for all new members should be mandatory, and be it further

Resolved, that the constituent societies eventually be grouped into councilor districts even if this means changing county allotments to different councilor districts as we feel this would facilitate a better "chain of command" and a better dissemination of information, and be it further

Resolved, that all categories of members should receive the "AMA News" if this is feasible in accord with AMA policies, and be it further

Resolved, that the information in the Constitution and By-Laws regarding members living in one county and practicing in another was adequate as it is now detailed in Chapter XII, Section 4, 6, 7, 8, 9, 10, 11, 12 of the By-Laws. It is felt that if this section were located along with the classification of members it would be more succinct, and be it further

Resolved, that the index of the Constitution and By-Laws be revised using as a guide certain of the constitution and bylaws of other states which have been reviewed (e.g. Maryland, Colorado, Ohio) and be it further

Resolved, that the Hippocratic Oath be printed on the outside back page, which is now blank, of the Constitution and By-Laws, and be it further

Resolved, that the councilors be more actively used to police their councilor districts specifically in regard to delinquent reports and dues which are now handled directly by the Kansas Medical Society office to local constituent societies and that each councilor visit each county society in his district at least once a year.

RESOLUTION NO. 30

Student Members

WHEREAS, the American Medical Association strongly urges that state medical societies provide a manner whereby medical students may become acquainted with the services, the benefits and the obligations of organized medicine, therefore be it

Resolved, that the Committee on Constitution and Rules be directed to write into the By-Laws a section whereby any senior student at the University of Kansas School of Medicine and any senior student who is a resident from Kansas but attending any medical school may upon his individual application for membership through a component society in this state, or directly to the Kansas Medical Society, if preferred, be granted an Associate Membership to be designated as a Student Member of the Kansas Medical Society and that if the application is accepted such member for a period of one (1) year be exempt from the payment of dues, to be placed on the mailing list of the Society and to have the privileges of membership except he would be ineligible to vote or hold office.

RESOLUTION NO. 31

Censorship of Members

WHEREAS, the censorship of members actually involves the rules of the Kansas State Board of Healing Arts, Article 7, Licenses, which rules concern the General Statutes 77-7-1 and 77-7-2, and Article 16, Revocation, which concerns the General Statutes Section 77-16-1, 2, 3, 4, 5 and 6 specifically relating to licensing, and censorship of members involves the Kansas Medical Society Constitution and By-Laws in numerous sections, and

WHEREAS, this does not adequately cover all of the details of censorship which might be desired, therefore be it

Resolved, that the following general principles be proposed as a guide to the Committee on Constitution and Rules:

1. That the term "grievance" be construed to be relative to a member and a non-member of a society as for instance with a physician and a patient; and that the term "ethics" be construed to pertain to intra-professional relations; that is, the conduct of members as it affects the society, its rules and purposes and the relationship between the member and another or a member and a component society.

2. That any individual may initiate a grievance complaint but a complaint regarding ethics shall arise either from a member or a component society within the Kansas Medical Society.

3. That the local societies have a mediation com-

mittee (preferably with overlapping terms of office) with a report being made to the Kansas Medical Society by this committee through their councilor of any action taken. (This would be important in the event of an offending member moving to another location in the state.)

4. That a combined mediation committee be designed at the state level, and this could well be a function of the Executive Committee as presently composed.

5. That the function of the State Mediation Committee (The Executive Committee) would in effect be to act as a "grand jury" for evaluating the complaints received from local societies or it might initiate complaints if evidence supports such consideration and when it would deem necessary to forward them to the Board of Censors (Council of the Kansas Medical Society).

6. That the Council constitute a Board of Censors to act on recommendations forwarded to it from a local grievance and ethics committee or from the State Mediation Committee.

RESOLUTION NO. 32

Recommendations on Legislation and Political Activity

The activities of the House of Delegates are printed in our bulletins but frequently they are printed in such a way as to discourage individual members from going through the cumbersome details. If a simple summary of the actions of the House of Delegates could be given at the beginning of such a report, then an individual could pick out the areas in which he is particularly interested for studying additional details. In such a summary the implications of the actions of the House of Delegates might be given in plain concise language.

Therefore Be It Resolved, that a means be found to:

1. Educate the membership at the local level on the uses and importance of the *President's Fund*.

2. Send important legislative news in an envelope separate from other information from the state level.

3. Prepare a simple summary of the actions of the House of Delegates followed by a detailed explanation of this action.

4. Establish a legislative committee which should be actively supporting legislation in a constructive manner. This committee might look for areas where this is needed.

RESOLUTION NO. 33

State Meeting

WHEREAS, your committee feels it is now appropriate to thoroughly review the purposes, the func-

tions and the activities of our annual sessions, and

WHEREAS, there is already established within the structure of the Society a State Meeting Format Committee, therefore be it

Resolved, that a review of this subject be undertaken by the State Meeting Format Committee and a report be subsequently submitted to the House of Delegates.

RESOLUTION NO. 34

The Journal

WHEREAS, your committee feels it is now appropriate to thoroughly review the purposes, the functions and the activities of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY, and

WHEREAS, there is already established within the structure of the Society an Editorial Board, therefore be it

Resolved, that a review of this subject be undertaken by the Editorial Board and a report be subsequently submitted to the House of Delegates.

RESOLUTION NO. 35

Relations With Religion

WHEREAS, the Committee on Relations with Religion met and adopted a basic policy for its operation, therefore be it

Resolved, that the Kansas Medical Society adopt the following: "The Kansas Medical Society Committee on Medicine and Religion has as its prime obligation the promotion of close cooperation and mutual understanding of the medical profession and the clergy in the total care of the sick. Under no circumstances will it enter into any political or sectarian activity."

RESOLUTION NO. 36

Safety

WHEREAS, accidents represent a major cause of death and disability in the United States, and

WHEREAS, the rate of death and disability from accidents has consistently been on the increase in Kansas, and

WHEREAS, the Kansas Medical Society has an obligation toward attempting to reduce this total, therefore

Be It Resolved, that the Kansas Medical Society increase its efforts through whatever medium of communication is most appropriate to conduct a vigorous program of safety education concerning the farm as well as urban areas.

RESOLUTION NO. 37

Tetanus Immunization

WHEREAS, there is a need for an improved educa-

tional campaign to acquaint the public with a need for tetanus immunization, therefore

Be It Resolved, that the Committee on Rural Health, together with any other appropriate committee, implement such an educational campaign, and

Be It Further Resolved, that the Rural Health Committee explore the possibility of obtaining the support of pharmaceutical firms in developing this educational program.

RESOLUTION NO. 38

External Cardiac Massage

WHEREAS, the indiscriminate training of lay people in the use of external cardiac massage is at times being carried out by persons other than physicians, and

WHEREAS, the improper use of this technique is of grave concern to the medical profession, and

WHEREAS, the need exists for the training of appropriate paramedical persons by the medical profession, therefore be it

Resolved, that the Committee on Study of Heart Disease and any other appropriate committee or committees, develop a policy on the use of this technique and define those persons who should be trained to so administer, and be it further

Resolved, that statements of the American Heart Association, the American Red Cross, and the Industrial Medical Association be called to the attention of the committee or committees responsible for developing this policy.

RESOLUTION NO. 39

Seat Belt Regulations

Be It Resolved, that the Kansas Medical Society go on record as recommending that the appropriate State agency prepare and place into effect appropriate regulations governing the sale of automobile seat belts in the State of Kansas, and

Be It Further Resolved, that these regulations will include the provision that the seat belts will meet or exceed current or future GSA-SAE Standards, and that appropriate sampling will be conducted to insure the strict adherence to these standards by distributors and dealers.

RESOLUTION NO. 40

Immediate Care of the Sick and Injured Course

WHEREAS, a course on the immediate care of the sick and injured, sponsored by the Kansas University Medical Center, the Kansas Medical Society and the Kansas State Department of Health, was held on

September 26, 27 and 28, 1963, at the Kansas University Medical Center, and

WHEREAS, this course met an excellent response, and

WHEREAS, this same course, sponsored by the Sedgwick County Medical Society and Gold Cross Ambulance Service on March 11, 12 and 13, was equally well attended, and

WHEREAS, plans are now under way for a similar course to be held in Salina in June, 1964, and

WHEREAS, it appears that there is a need for this course to be held annually at strategic locations across the state, therefore

Be It Resolved, that the Kansas Medical Society approves the continuance of the "Immediate Care of the Sick and Injured" course on an indefinite basis so long as interest and participation is indicated by appropriate paramedical and lay persons, and

Be It Further Resolved, that the Kansas Medical Society will remain as a sponsoring organization of this course in cooperation with the Kansas State Department of Health, Kansas University Medical Center; and will continue to provide appropriate support to those county medical societies and the Kansas University Medical Center responsible for presenting the course.

RESOLUTION NO. 41

"Immediate Care of the Sick and Injured" Course Guide

WHEREAS, the development of a course entitled the "Immediate Care of the Sick and Injured" has been completed and presented for the training of paramedical personnel, and

WHEREAS, a need for a comprehensive course guide exists to be used in future presentation of this course, and none now exists, and

WHEREAS, a conscientious effort has been made to collect all information from past courses for inclusion in such a guide book, and

WHEREAS, the Division of Accident Prevention, U. S. Public Health Service, has expressed a desire to financially support development of said course guide, therefore

Be It Resolved, that the Kansas Medical Society enter into a joint effort with the Kansas State Department of Health; Kansas University Medical Center; Sedgwick County Medical Society; Wichita-Sedgwick County Health Department; Gold Cross Ambulance Service; Saline County Medical Society; and American College of Surgeons, Kansas Chapter, Committee on Trauma, to develop said guide book, and

Be It Further Resolved, that the responsibility for development be placed under the direction of the Society's Committee on Safety.

RESOLUTION NO. 42

This resolution relating to the report of venereal disease was not adopted.

RESOLUTION NO. 43**Society Policy on Welfare and MAA**

WHEREAS, health care for the indigent and a new program of Medical Assistance for the Aged under Kerr-Mills are much in the news, and

WHEREAS, the Kansas Medical Society has not clearly expressed its position on these two subjects, therefore be it

Resolved, that the Kansas Medical Society approve the following principles:

1. The physicians of Kansas will continue, as they always have, to care for the sick, including the aged, regardless of their economic situation.

2. The physicians of Kansas endorse and support the concept of Medical Assistance for the Aged under Kerr-Mills as a means for preserving the economic status of the aged through a period of catastrophic illness whereby they may avoid the necessity of accepting Old Age Assistance.

3. MAA is *not* Welfare nor does the fact that the local Welfare department certifies their eligibility make MAA another category under the Public Assistance program.

4. The State Board of Social Welfare eligibility standard for MAA is so close to the eligibility for OAA, that the Kerr-Mills concept and the Kansas Legislature intent has been defeated.

5. The transfer of present recipients of OAA who reside in nursing homes into MAA for the purpose of obtaining a higher per cent of federal aid is, in spite of an apparent fiscal advantage to this state, false economy, and dishonest to the purpose of the Kerr-Mills law.

6. The declaration by Welfare that physicians will be paid identical fees for MAA as for OAA is a form of "involuntary servitude" that cannot be imposed. Medicine offered Welfare a greatly reduced schedule of fees for those persons who are under Public Assistance program. The MAA recipient qualifies for service benefits under Blue Shield Plan B. Medicine will accept this concept but will not be coerced beyond that point.

7. Therefore, the MAA recipient will receive professional services from the physicians of Kansas as any other patient. Whether to care for any individual or to submit a statement to Welfare is the decision of the physician and his alone.

8. The Committee on Welfare will continue its efforts to bring about a broader eligibility, the prepayment principle and an improved fee schedule for the MAA program.

9. The Kansas Medical Society has endorsed the state-wide plan for health care in the traditional categories of Welfare, which became effective on April 1, 1964. It is admittedly not to the liking of all physicians. Some portions are distasteful to all. But there is logic to the philosophy upon which the plan is built.

a. There has been gross inequality in existing plans in physician payment as well as in other factors which are hereby corrected.

b. Recipients of Welfare are the economic wards of government. Medicine contributes to this program by willingly accepting a great reduction in charges.

c. By offering to prorate to hospitals a major share of the health care budget, which will pay cost or charges for the hospitalization of the indigent, Medicine averts for the patient not on Welfare the necessity of still higher hospital costs.

d. Approval of the Kansas Medical Society of this program and disapproval of MAA is the only way in which this Society can retain a consistent position.

e. The practice of Medicine is the individual service by a physician to his patient. Society approval of one and disapproval of a second program sponsored by the State Board of Social Welfare has no bearing whatever upon the participation in such programs by any physician with reference to any patient. The decision rests with the physician and with no one else.

10. The Committee on Welfare will continue to work with the State Board of Social Welfare toward the end that continued improvement may be made in health care for the indigent and will work specifically toward devising a satisfactory state-wide prepayment program for all recipients of Welfare.

11. Resolved, that the members of the Kansas Medical Society be kept current by the most expeditious means at the time of any progress that may result from these future deliberations.

RESOLUTION NO. 44**Control of Tuberculosis**

WHEREAS, since the state of Kansas undoubtedly will no longer collect formula money from the Department of Health, Education and Welfare for routine photo fluoroscopic survey, and

WHEREAS, other state controlled departments operate on fees for services, and

WHEREAS, the Committee on Control of Tuberculosis considers the jointly sponsored state-wide P.F. survey a valuable educational device as well as a means of finding new cases of T.B., therefore be it

Resolved, that the State Board of Health consider accepting voluntary contributions for Photo Fluoroscopic films at a suggested minimal rate of 25 cents

and that such contribution be used for the support of the P.F. survey unit.

RESOLUTION NO. 45

Federal Funds for Tuberculosis Control

Be It Resolved, that the Kansas Medical Society go on record as urging the Kansas State Legislature to continue the appropriation of moneys for tuberculosis control from state funds.

RESOLUTION NO. 46

This resolution, relating to the investment of Society funds, was not adopted.

RESOLUTION NO. 47

W. Clarke Wescoe, M.D.

WHEREAS, a member of the Kansas Medical Society, W. Clarke Wescoe, M.D., is serving with distinction as chairman of the AMA Council on Medical Education, and

WHEREAS, he is the first member of this Society to chair a council of the AMA, and

WHEREAS, his efforts on this council were so outstanding, he was appointed for an unprecedented second five-year term,

Be It Resolved, that the House of Delegates of the Kansas Medical Society offer its congratulations to Dr. Wescoe for an outstanding job well done, and

Be It Further Resolved, that a letter be written to Dr. Wescoe by the president of the Kansas Medical Society, telling Dr. Wescoe of our pride in his achievement and containing a copy of this resolution.

RESOLUTION NO. 48

The intent of this resolution was accomplished in Resolution No. 43.

RESOLUTION NO. 49

The intent of this resolution was accomplished in Resolution No. 43.

RESOLUTION NO. 50

This resolution was combined with Resolution No. 14.

RESOLUTION NO. 51

Resolution No. 51, pertaining to the establishment of a permanent Department of Public Relations was referred to the Committee on Plans and Scope.

RESOLUTION NO. 52

Eye Refractions for Welfare Recipients

WHEREAS, the State Board of Social Welfare provides medical service for all recipients of Public As-

sistance without restriction as to the provision of professional care except that vision correction is provided only after the recipient has been certified to be blind, and

WHEREAS, this restriction is not conducive to good medical care and distinctly contrary to efforts relating to the prevention of blindness,

Therefore Be It Resolved, that the refraction of eyes be considered proper medical care and that this professional service be allowed recipients of Welfare as may be required, and

Be It Further Resolved, that reimbursement to physicians performing such service be made upon the same payment formula as is paid for surgery on the eye, and

Be It Further Resolved, that this matter be referred to the Committee on Welfare.

RESOLUTION NO. 53

Area-Wide Planning for Health Facilities

WHEREAS, the United States Public Health Service in collaboration with the American Hospital Association issued a joint report on "Area-Wide Planning for Hospitals," and

WHEREAS, this report, as well as burgeoning literature on the subject, presents the thesis that only the big voluntary non-profit or government hospital can render complete or the best medical service, and

WHEREAS, these reports, referred to, further advanced the seductive argument that the building of private-for-profit hospitals may deprive a community of an "opportunity" to obtain government funds for a non-profit institution, and

WHEREAS, these reports encourage compulsory area-wide planning for hospitals and other health facilities to be implemented by legalized state agencies, and

WHEREAS, the president of Blue Cross, Mr. Walter J. McNerney, has been quoted as stating "any group which builds without reference to community planning jeopardizes the solvency of Blue Cross," and

WHEREAS, in one area their Blue Cross tried to deny claims from a hospital which had expanded its plant without consulting its area planning board, and

WHEREAS, Federal tax money is now being used for area-wide planning for health facilities in Minnesota, Kansas, Hawaii and other areas, and

WHEREAS, efforts are being made in various states to establish statutory compulsory area-wide planning for health facilities, and

WHEREAS, S-85 which passed the Senate without debate affords Federal recognition and commendation for all such planning boards and commissions and lays the groundwork for ultimate complete control by such boards, and

WHEREAS, compulsory area-wide planning for health facilities is dangerous, unnecessary and inconsistent with the time proven success of free enterprise to solve such problems, therefore be it

Resolved, that the House of Delegates of the Kansas Medical Society in regular session assembled in Topeka, Kansas this 6th day of May, 1964 opposes compulsory and supports voluntary area-wide planning for health facilities as now conducted in the State of Kansas.

RESOLUTION NO. 54

Resolution No. 54 pertaining to Federal production of goods and services failed to pass.

RESOLUTION NO. 55

The intent of this resolution was accomplished in Resolution No. 26.

RESOLUTION NO. 56

Medical Research Confidentiality

WHEREAS, the Kansas Medical Society has supported the development of an accident prevention program by the Kansas State Department of Health, and

WHEREAS, the collection of pertinent information on accidental injuries and deaths is of primary importance in the formulation of effective preventive programs for reducing such deaths and injuries, and

WHEREAS, epidemiological investigation of specific types of accidents is desirable in determining the circumstances causing these accidents now, therefore

Be It Resolved, that the Kansas Medical Society go on record as favoring the following changes in Section 65-177 under Medical Research Studies, as found in the 1961 supplement to the General Statutes of Kansas in regard to "data" designed; study of diseases and deaths from maternity causes; confidentiality, use; admissibility of evidence; reports, contents. The sentence stating "The State Board of Health may authorize the state health officer to receive data secured in connection with medical research studies conducted for the purpose of reducing morbidity or mortality from maternal, perinatal and anesthetic causes." be changed to include "accidental causes," and the sentence which states "no employee of the State Board of Health shall interview any patient named in any such report nor any relative of any such patient:" be changed to read "no employee of the State Board of Health shall interview any patient named in any such report nor any relative of any such patient unless the consent of the attending physician or surgeon be first obtained." and

Be It Further Resolved, that this be referred to the

Legislative Committee for action prior to the 1965 session of the Kansas Legislature.

RESOLUTION NO. 57

Pilot Medical Review Committee to Kansas Motor Vehicle Department

WHEREAS, the chairmen of the following Kansas Medical Society committees: Committee on Eyesight, Conservation of Hearing and Speech, Mental Health, and Safety, have, with other physicians, been meeting with representatives of the Kansas Motor Vehicle Department, office of the Governor, members of the Kansas Legislature, State Department of Health, Kansas Highway Commission, Kansas Highway Patrol, and the U. S. Public Health Service, for the purpose of determining how the Kansas Medical Society can best assist the various official governmental agencies concerned with drivers' licensure, and

WHEREAS, in the course of these meetings it has become increasingly apparent that local medical review committees acting as consulting bodies to the Kansas Motor Vehicle Department would be most helpful to this department, and

WHEREAS, it appears the Kansas Motor Vehicle Department would need approximately four such medical review committees, and

WHEREAS, the Kansas Motor Vehicle Department would like to start this program initially in Shawnee County, on a trial basis, therefore

Be It Resolved, that the Kansas Medical Society respectfully requests a meeting of appropriate representatives of the Shawnee County Medical Society and representatives of the Kansas Motor Vehicle Department together with representatives of the Drivers' Licensure committee for the purpose of exploring the feasibility of establishing a temporary, voluntary, committee of appropriate medical specialists to carry out the proposed pilot study, and

Be It Further Resolved, that the Kansas Medical Society encourages the establishment of three other such medical review committees based on the results of the Shawnee County pilot program.

RESOLUTION NO. 58

Basic Science

WHEREAS, this House of Delegates authorized its officers to cooperate with the Legislative Council and with the Legislative Research Department in their study of the operation of the Kansas Basic Science Law, and

WHEREAS, this has been and is being done, and

WHEREAS, there may arise questions which will require an early answer, therefore

Be It Resolved, that the President, with the advice of the Executive Committee, is authorized to act as may become necessary to preserve for the health welfare of the people of Kansas the assurance that persons authorized by license to treat the sick have an adequate knowledge of the Basic Sciences.

RESOLUTION NO. 59

Shawnee County Medical Society

WHEREAS, the Shawnee County Medical Society has fully given its time and efforts in the preparation and planning and execution of the local arrangements for the 105th Annual Meeting of the Kansas Medical Society, and

WHEREAS, this 105th Annual Meeting has been most informative and successful due to these efforts, and

WHEREAS, the Shawnee County Medical Society executed an informative and most pleasurable program for the entertainment of our ladies, therefore be it

Resolved, that the Kansas Medical Society in assembly at its 105th Annual Session express its gratitude to the Shawnee County Medical Society for making this Annual Session a most informative and pleasurable occasion, and be it further

Resolved, that especial thanks be given to Dr. Louis Cohen, Chairman of the local Arrangements Committee, together with the members of his committees and Dr. Richard R. Beach, President of the Shawnee County Medical Society, to Mrs. Otto Hanson and Mrs. Donald Pierce, Immediate Past President and present President of the Shawnee County Medical Auxiliary, and the members of their committees for the planning and performance of this meeting, and be it further

Resolved, that copies of this resolution be sent to these individuals and the Shawnee County Medical Society.

RESOLUTION NO. 60

Reference Committees

Be It Resolved, that the House of Delegates express its gratitude to the Reference Committees for the excellent work they have performed during this session of the House of Delegates.

RESOLUTION NO. 61

Executive Committee

Be It Resolved, that the House of Delegates express its gratitude to the Executive Committee and to the staff for making copies of all resolutions available to the members of the House of Delegates.

SCIENTIFIC EXHIBIT AWARDS

Awards were presented for the best scientific exhibits at the 105th Annual Session of the Kansas Medical Society, held in Topeka on May 4-6, 1964. The first, second and third place winners were:

1. *Physiological Mechanism of Gastric Freezing: A Clinical and Animal Study with an Evaluation of 300 Treatments*—Arthur P. Klotz, M.D.

2. *The Diagnosis of Congenital Hips*—Harry G. Kroll, M.D., and Robert C. Lawson, M.D.

3. *Origin of House Dust Allergen*—Ralph Hale, M.D., and Leo P. Cawley, M.D.

Honorable Mention awards were given to Hayden, Seaman and Washburn Rural high schools.

AMA FILM CATALOG

The most complete catalog ever compiled of medical and surgical motion pictures has been published by the American Medical Association.

The new book, *Medical and Surgical Motion Pictures*, lists over 3,000 available motion pictures dealing with every phase of the healing arts. Up-to-the-minute listings were made possible through computer processing.

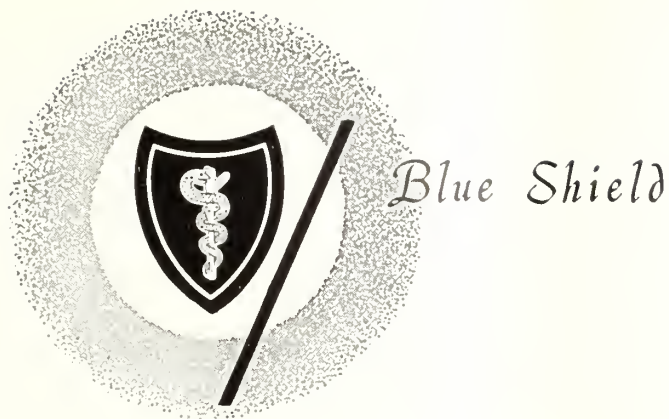
The *AMA Medical and Surgical Motion Pictures* catalog will be an invaluable tool in the training of students, nurses, and graduate physicians. This catalog is aimed at the potential user of films of a professional nature and includes films for personnel in ancillary fields of medicine.

The film listings are divided in three general categories: basic sciences, clinical medicine and surgery, and para-medical sciences. It is then subdivided into some 600 specialty subjects. The films are listed alphabetically under each specialty.

Included with the listing is a brief summary, running time, black and white or color, silent, optical or magnetic sound, year of release, language versions other than English, names of the authors and producers, and the name and the address of the primary rental source. Films have been chosen which are readily available in the United States. In many cases a critical evaluation of the motion picture is included with its listing.

Present plans call for the catalog to be updated periodically.

The *Medical and Surgical Motion Pictures* catalog is available at the cost price of \$5.00 to addresses in the U.S., U.S. Possessions, and Canada; \$5.50 to other foreign addresses. Write to the American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.



Medical Assistant Education . . . A Continuing Blue Shield Activity

Blue Shield subscribes to the belief that a well informed office assistant is one of the physician's most valuable assets. In line with this reasoning, the Plan has sponsored an ongoing program of medical assistant education during the past six years. There are two major goals: to provide an opportunity for Participating Physicians' office personnel to secure current information about Blue Shield programs and procedures as well as to establish a means of direct two-way communication concerning mutual problems that arise in day to day business matters.

The principal method used in achieving these objectives is the Blue Shield sponsored Medical Assistant Educational Meeting. Held in central locations within 20 districts of geographically compact county groupings, Medical Assistant Educational Meetings are usually day-long events with morning and afternoon sessions broken by a luncheon furnished by Blue Shield. A recent agenda looked somewhat like this:

- 9:30 a.m.-10:00 a.m. Coffee and Registration
- 10:00 a.m.-11:00 a.m. The new Blue Shield Southwestern Bell Telephone Program
- 11:00 a.m.-11:45 a.m. General information about Manual supplements, the new Identification Card, and procedural methods for securing better Blue Shield service on various categories of cases
- 12:00 p.m.- 1:00 p.m. Luncheon
- 1:15 p.m.- 1:45 p.m. Survey of revisions in Blue Shield Federal Employee Plan benefits

1:45 p.m.- 2:30 p.m. Review of differences among most commonly encountered Blue Shield programs in Kansas

2:30 p.m.- 3:00 p.m. Question and Answer period

Meetings are conducted by Blue Shield staff. All those attending are encouraged to participate in discussions. Agendas are arranged so that time is available at various intervals to allow office personnel the opportunity to bring up questions regarding common problems in handling Blue Shield business and to contact Plan representatives about specific cases affecting their individual offices. In this way it is hoped that such meetings promote an effective two-way communication which will not only assist the doctor's office in conducting its Blue Shield business but also furnish Blue Shield with insights into how it can better adapt its operation toward a more efficient service to physicians.

During the past 12 months, 14 such meetings were conducted with attendance by representatives from approximately 350 offices and clinics. Several additional evening dinner meetings with similar, but abbreviated, agendas served over 100 additional offices.

Although this direct contact provided educational communication with personnel from some 450 individual offices and clinics, the fact that this figure represents only 35 to 40 per cent of over-all practice has encouraged Blue Shield to seek additional means of direct educational communication as a supplement to the Medical Assistant Educational Meeting program.

(Continued on page 314)



Medical Assistance for the Aged

Although administered by the Kansas State Board of Social Welfare, Medical Assistance for the Aged is not welfare. Recipients of welfare receive food, clothing, shelter and health care from government funds. The MAA beneficiary obtains temporary assistance by way of preserving his economic status to protect him from public dependency. Health care was selected because of the unpredictability of its need and cost.

The recipient of welfare is presumably without personal resources and therefore requires total health care. The medical profession volunteers to supply this care, as needed, at a cost within the budget appropriation, even though true cost and payments rendered bear little reasonable relationship to each other.

The MAA recipient is, except for an extended illness, independent of governmental assistance. He purchases goods and services from his own resources. Because his income status is limited, physicians reduce their charges for his medical care. If he carries Blue Shield protection on a service basis, a physician receives approximately half of the normal fees.

When ill, the recipient of MAA still supplies his own living expenses and is assisted only through payment of services related to health. Physicians agree to a reduction in their fees consistent with charges made to persons of comparable economic status but cannot accede to the demand of the State Board of Social Welfare that the MAA beneficiary is in every respect to be considered as any recipient of public assistance.

For one thing, he does not need, nor does he ask for, nor does MAA provide rent and clothing. Neither does he require, but under the Kansas program he is

offered, total health services. The cost of the home call or the office visit for care of minor or temporary disorders he can pay from his own resources. Including such services as benefits under MAA can vastly increase its cost as may readily be illustrated by deductible collision insurance for an automobile.

It is because of these obvious reasons the Kansas Medical Society urges the State Board of Social Welfare to reconsider the rules and regulations through which the MAA program operates in this state.

It is not reasonable, nor economically sound, to require that the MAA applicant dispose of his resources until he is virtually reduced to eligibility under OAA and then, after he has lost his ability for economic recovery, to provide him with total health care. How much less it would cost the state to permit this citizen his right to maintain his independence and aid in his health care at such time when a major or a catastrophic illness threatens his necessary financial reserves!

Contrast the difference between paying for total health care for every condition with paying for the cost of illness in excess of \$100 or \$200 or \$500.

Such plan as proposed by the Kansas Medical Society will provide protection for many as it is needed. It will allow the individual to supply his own care until his economic future becomes jeopardized. It will assure for him his economic independence after he recovers. And the program will be less expensive to the taxpayer, which includes the potential MAA recipient himself.

This plan will not allow the wholesale transfer of OAA recipients into MAA, thereby losing for Kansas the attractive higher federal participation. But surely there is little doubt that federal money is the most expensive portion of all tax programs. And, of

even greater importance, this transfer of one already eligible for total health care might well cause his place in OAA to be permanently occupied by someone else, who, except for this, would have been temporarily on MAA and then independent again.

Therefore, the Kansas Medical Society offers an MAA program that will protect those over 65 years from becoming wards of the state and is in position to establish that expense for physicians' services will not exceed such cost under the presently operating program.

Hospital Immunity Reversed

The Supreme Court of Kansas in an opinion prepared by Justice Alfred G. Schroeder declared unconstitutional a law found in the General Statutes of Kansas 1959 Supplement, chapter 17-1725. The case, for anyone interested in examining this further, is number 43532. It represents an action entitled *Neely vs. St. Francis Hospital and School of Nursing at Wichita*. The Supreme Court reversed an opinion rendered by the District Court of Sedgwick County.

The Kansas statute referred to above is entitled "Religious, Charitable and Other Organizations." It states in part that property, either real or personal, belonging to hospitals operating on a nonprofit basis "shall not be subject to attachment, garnishment, execution or other forced disposition or process except for obligations owing to the state, or its subdivisions or agencies, or for obligations contractually assumed by such corporation for the purpose of rendering its services, and performing its functions, for such beneficiaries."

The Supreme Court of Kansas declared this section of the statute invalid because it contravenes Section 18 of the Bill of Rights of the Constitution of Kansas which says, "All persons, for injuries suffered in person, reputation or property, shall have remedy by due course of the law, and justice administered without delay."

Kansas-Cornell Automotive Crash Injury Research

Beginning June 1, 1964, physicians in selected areas of Kansas will be asked to participate in the automobile crash injury studies of the Cornell Aeronautical Laboratory, Inc. of Cornell University. Since its inception, the purpose of this research has been to obtain reliable data on the specific causes of injury to occupants of passenger cars involved in accidents, rather than on the causes of the accidents themselves.

Information from the interstate ACIR program has

served as a basis for the designing of passenger protection devices such as the seat belts, improved door latches, energy-absorbing steering wheels, padding, etc., with which automobile manufacturers began equipping their cars in about 1955. Now, one of the purposes of the program is to collect data for use in evaluating the effectiveness of those recently adopted safety devices, as well as in showing the need for additional protection.

Trauma produced in highway accidents is a "disease" endemic to the Western Hemisphere during the Twentieth Century just as bubonic plague, typhoid fever and malaria were seemingly ineradicable during the previous eras.

The Cornell studies employ the epidemiologic approach, and Kansas is the 28th state in which the State Medical Association, the State Department of Health, the State Hospital Association and the State Highway Patrol have agreed to cooperate. The other states are Indiana, North Carolina, Maryland, Connecticut, Virginia, Minnesota, Arizona, Vermont, Texas, California, Pennsylvania, Georgia, New York, Michigan, Colorado, Oregon, Ohio, Illinois, New Mexico, South Carolina, Wisconsin, Iowa, North Dakota, Kentucky, Mississippi, Oklahoma and Florida.

Accident investigators and members of the medical profession are contributing valuable data from this "laboratory of the highways" to the ACIR project located at the Cornell Aeronautical Laboratory, Inc. of Cornell University, in Buffalo, New York, where a standard technique of evaluation and analysis is employed to identify the characteristics of the environment producing trauma. The Cornell ACIR studies are sponsored by the USPHS and by the Automobile Manufacturers Association.

Thus far, the Cornell studies have shown that these safety devices are effective in preventing or in reducing the severity of injury. In the injury studies conducted on crashes involving the newer cars, it has been found that the incidence of door-openings during accidents has been reduced by one-third. Door latches of a greatly improved design have been incorporated in the 1963 models of two of the major car manufacturers and it is expected that these modified components will further reduce the frequency of door-openings.

As a result of these design modifications, it has been found that the frequency of passenger ejection is down about 40 per cent, and the serious or fatal injuries have declined about 12 per cent. Yet, door latches haven't been made crash-proof, and if they could be so designed to control the ejection problem, the Cornell authorities are convinced that 5,500 additional lives could be saved each year.

When in use during an accident collision, it is

reliably estimated that seat belts account for a 35 per cent reduction in the risk of major or fatal injury.

The Kansas study is scheduled over a three-year period and is broken down into two phases of 18 months each as follows:

Phase A: During this period, the state will be divided into three study periods each of six months' duration. Physicians will be asked to provide medical information on injured occupants of recent model passenger cars (last four years of manufacture) only during the six-month period in which their county is represented in the sampling plan.

Counties included during the first six-month phase are: Atchison, Brown, Doniphan, Douglas, Franklin, Jackson, Jefferson, Johnson, Leavenworth, Lyon, Marshall, Miami, Nemaha, Osage, Pottawatomie, Riley, Shawnee, Wabaunsee, Wyandotte in Division No. 1; and Clark, Comanche, Edwards, Finney, Ford, Grant, Gray, Greeley, Hamilton, Haskell, Hodgeman, Kearny, Kiowa, Lane, Meade, Morton, Ness, Pawnee, Rush, Scott, Seward, Stanton, Stevens, Wichita in Division No. 6.

Phase B: During this period, the entire state will be sampled for 18 months. It is anticipated that the passenger cars involved will be of the last two years of manufacture only.

When one or more occupants in a passenger car of recent model (last four years) have been injured, the state highway patrol officer assigned to investigate the accident will have two extra tasks to perform:

1. To take photographs of the damaged portions of the car and provide certain information with respect to the association of injury to car structure.
2. To deliver the Cornell medical report form, one for each injured person, to the hospital emergency room or doctor's office where the injured were taken (or to the county coroner for passengers killed in the crash). The investigating officer will also record the date, time and location of the accident; and the name and seated position of the injured person on the medical report form.

The hospital employees will give the form to the attending physician and when it has been filled out, it will be forwarded by the hospital to the State Board of Health in the postage-paid envelope provided by Cornell.

The physician will find that the ACIR medical form he is asked to complete is a brief one and since accidents to be investigated are restricted to passenger cars only of the last four years of manufacture, a minimum of extra work will be experienced in connection with this study.

The Kansas State Board of Health will coordinate the medical aspects of the program. This office will

receive the reports and photographs from the State Highway Patrol and from the physicians (in most instances, through the hospitals where the patient has been cared for) and will forward them to Cornell.

Conclusion

Physicians are urgently requested to participate in this effort, for it is aimed at attacking one of the nation's foremost problems. Unless the injuries of each person injured or killed in a qualified passenger car accident within the sampling area are carefully recorded, the effectiveness of the study and the value of the data that is produced will be seriously reduced. All data received by ACIR are treated as privileged communication and used for its research purposes only.

Blue Shield

(Continued from page 311)

Appearances on programs of workshops sponsored by local or state Medical Assistants organizations, and calls on individual offices—particularly those of newly-established practices or where an inexperienced office secretary has been recently employed—are two means by which Blue Shield has been able to supplement its educational meeting activities.

Plans for the balance of 1964 call for approximately 15 area educational meetings. Invitations will be sent to the offices of all Participating Physicians in an area involved well in advance of a meeting. It is hoped that an increasing number of offices will be represented in upcoming meetings. Although presentations are primarily aimed at personnel who handle daily Blue Shield business, the physician-employer is included in invitations and is always a welcome guest at these events.

Blue Shield also encourages new Participating Physicians and offices where recent personnel turnover has occurred to contact the Physician Relations Department if educational assistance may be needed.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Terry R. Denison, M.D.
5829 Woodson Road
Mission, Kansas

Harvey S. Smith
Box 123
Concordia, Kansas

Jack Mohler, M.D.
417 N.W. Third Street
Abilene, Kansas

Gary L. Whitacre
2121 Minnesota
Kansas City, Kansas



Personalities—IN KANSAS MEDICINE

Henry O. Marsh, Wichita, was one of the participants in a seminar entitled "Low Back Syndrome" held in Wichita for the Junior Bar Association of Sedgwick County. During April, Dr. Marsh presented papers to the Flint Hills Medical Society at their meeting in Emporia, and to the Educational Workshop of the Kansas Chapter of the American Physical Therapy Association in Wichita.

Norvan D. Harris, Liberal; **Jay S. Benton**, Newton; **Milburn N. Hobson**, Shawnee Mission; and **Marvin H. Hird**, Wichita, were recently elected Fellows of the American College of Obstetricians and Gynecologists.

New officers of Kansas Blue Shield are: **E. Burke Scagnelli**, Garden City, who was re-elected president; **Robert K. Purves**, Wichita, first vice president; **James L. McGovern**, Wellington, second vice president; and **Charles S. Joss**, Topeka, secretary-treasurer.

Clair C. Conard, Dodge City, was guest speaker at the April initiation banquet of the Dodge City College chapter of Phi Theta Kappa, the National Scholastic Honorary Society for Junior Colleges.

David G. Laury, Ottawa, was installed as president of the Kaw Valley Heart Association at their annual dinner meeting held in Kansas City in April. He succeeds **Monti L. Belot** of Lawrence. **C. Arden Miller**, dean of the University of Kansas School of Medicine was the principal speaker.

Among the Wichita physicians who participated in the annual Women's Worry Clinic sponsored by the

Wichita-Sedgwick County Association for Mental Health were: **C. Joseph Kurth**, **R. A. Nelson**, **Paul Uhlig** and **R. M. Gouldner**.

George Zubowicz, Osawatomie, was recently called to Hartford, Connecticut, to meet with the Connecticut Department of Mental Hygiene for a discussion of the unit system for state hospitals. The Osawatomie State Hospital has been operating on the unit system for several years and for the past two years has been under "The Kansas Plan," which was described by Dr. Zubowicz in a paper published in the JOURNAL in January.

Dr. and Mrs. George Burket attended the national convention of the Academy of General Practice held in Atlantic City in April. Dr. Burket is a director of the Academy.

Robert G. Rate, Halstead, attended the 14th Biennial Congress of the International College of Surgeons in Vienna, Austria, in May, where he presented a paper on the new gastric tunnel technic at a symposium on the surgical repair of esophageal hiatal hernia. Dr. Rate was accompanied on the trip by his wife and daughter.

Physicians from a large section of Kansas attended the annual convention of the Golden Belt Medical Society held in Junction City in April. Papers were presented at the meeting by **D. R. Bedford**, Topeka, **Harvey A. Tretbar** and **Leo P. Cawley**, both of Wichita. Officers of the society are **Clarence J. Weber**, Salina, president; **Charles G. Herrman**, Topeka, vice-president; and **Dean C. Chaffee**, Abilene, secretary.



Book REVIEWS

THE MANAGEMENT OF A MEDICAL PRACTICE by Allen F. Nourse and Geoffrey Marks. J. B. Lippincott Company, Philadelphia, 1963. 387 pages. \$9.00.

The experience and knowledge of a qualified team, consisting of a physician-writer and medical management consultant, are joined to assemble many practical ideas and suggestions, which are recommended fully to practicing physicians and those younger physicians commencing their practice. Those having difficulty in patient relationships might well read this book for profit.

In the earlier portions of the book, it is pointed out that there is commonly a false assumption that a physician automatically is able to resolve problems arising in office management; but this is not true, since most medical school curricula and subsequent training programs largely ignore economic and business aspects of medical practice. The book deals with many of the problems of practice management which result in patient dissatisfaction. These problems are analyzed and solved. In the final chapters of the book, there are many suggestions about the factors concerned in the location of a practice, personal financial planning, and actual office management.

The language is clear and the print is very acceptable. The book is recommended to the general practitioner, as well as the specialist.—*N.V.T.*

HANDBOOK OF PEDIATRIC MEDICAL EMERGENCIES by Adolph G. DeSanctis, M.D. and Charles Varga, M.D. 3rd Edition. C. V. Mosby Company, St. Louis, 1963. 457 pages illustrated. \$12.75.

This is an excellent handbook prepared by the two authors and nine other contributors. It originated as a guide for the resident staff and postgraduate physicians at the authors' school and has progressed into its third published edition. The title is self-explanatory. The field is very adequately covered in a prac-

tical manner. There are few emergencies in medical pediatrics that the reader will not find discussed here.

The book is composed of 16 chapters and an appendix with a concise table of contents and a good index. Each chapter is headed by its own table of contents. Most of the illustrations are confined to the chapter on Pediatric Procedures and cover those most commonly concerned with medical emergencies in pediatrics. The physical construction is such that the book will lie open without propping by the reader.

Much of the text is in outline form with essay presentation for that material not amenable to outline. Signs and symptoms are presented in abbreviated form and although directions for treatment are outlined they are specific and detailed as to procedures, drugs and dosages. There is a 60-page chapter on poisoning and a 25-page appendix of commercial poisons, which are of particular value if one is not near a poison control center.—*H.T.G.*

RESISTANCE OF BACTERIA TO THE PENICILLINS. Edited by A. V. S. deReuck and Margaret P. Cameron. Little, Brown and Company, Boston, 1962. Pp. 125. Price \$2.95.

The book deals with penicillin, its mode of action, and the nature of bacterial resistance to penicillin. The book deals with the nature of the action of penicillin and the nature of penicillin resistant organisms from the standpoint of the pharmacologist, bacteriologist, and clinician. It is well documented both from the standpoint of bibliography as well as from the standpoint of data presented in support of the conclusions represented there. Of particular interest is the chapter by H. J. Rogers on the mode of action of penicillin. The chapter by R. Knox on the different types of resistance to different penicillins would be of interest to the practitioner. Although the book is heavily directed toward the pharmacologist and bacteriologist, it should also be of interest to the clinician.—*J.E.C.*



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Allen, F. H. Positive aspects of child psychiatry. . . . Norton, 1963.
- Atamer, M. A. Blood diseases. Grune & Stratton, 1963.
- Bartley, S. H. Vision; a study of its basis. Hafner, 1963.
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KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in February 1964 and 1963
And cumulative totals for the first two months of 1964 and 1963

<i>Diseases</i>	<i>February</i>			<i>January to February Inclusive</i>		
	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>
Amebiasis	—	20	2	—	22	7
Aseptic meningitis	—	—	—	1	—	1
Brucellosis	—	1	1	—	1	4
Cancer	332	277	312	638	571	638
Diphtheria	1	—	—	3	—	—
Encephalitis, infectious	8	—	1	10	1	2
Gonorrhea	182	207	182	459	473	459
Hepatitis, infectious	76	14	53	142	41	141
Meningitis, meningococcal	1	—	1	2	—	2
Pertussis	—	5	1	2	21	6
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	1	—	1	2	—	1
Salmonellosis	16	6	6	26	20	13
Scarlet fever	8	101	71	23	145	145
Shigellosis	42	—	1	80	9	9
Streptococcal infections	369	258	164	542	409	409
Syphilis	74	85	85	159	169	223
Tinea capitis	7	6	11	15	18	22
Tuberculosis	17	14	17	37	44	44
Tularemia	2	3	2	2	4	2
Typhoid fever	—	—	—	—	—	—

BOTULISM ANTISERUM

During 1963, three outbreaks of Type I botulism occurred in the United States resulting in 22 cases and seven deaths. On the basis of past experience, such outbreaks are extremely rare. In the past 30 years less than 40 cases in all have been reported. Despite this and since Type E botulinus antitoxin is not produced in the United States, the U. S. Public Health Service has obtained a limited supply of Danish polyvalent botulinus antitoxin which includes Type E. This has been titrated and tested and will be made available on an emergency basis should the need arise.

Type E botulism has been associated with fish or fish products such as smoked fish, canned tuna, salmon eggs, etc. Types A and B botulism, which are the types usually responsible for clostridial food poisonings in the United States, are primarily associated with improperly processed vegetables. This occurs from ingesting food usually eaten uncooked or from jars or cans inadequately processed during canning. Green

beans, pimentos, olives, and mushrooms have been involved in epidemics. Occasionally, types A and B may also be associated with improperly processed fish or fish products. The reservoir of the botulinus bacillus is soil and the intestinal tract of animals. Toxin is formed by the anaerobic growth of spores in food which is the immediate source of poisoning. Such toxin is easily destroyed by boiling but spores require higher temperatures.

Time does not permit laboratory studies prior to treatment in order to determine the botulism type involved. Thus, if some form of fish is suspected as the vehicle, the Danish polyvalent antitoxin should be employed; otherwise treatment with bivalent A and B antitoxin should provide optimum specific therapy.

Around the clock telephone coverage has been established by the U. S. Public Health Service to handle Type E emergencies. The telephone number is: Area Code 404-634-2561, Atlanta. For Type A and B antitoxin, contact should be made, as in the past, with Lederle Laboratory representatives or with the Kansas State Department of Health.

Maternal Mortality

This patient was a grand multipara in previous good health who died in a large well equipped hospital. The certificate indicated death to be due to intra-abdominal hemorrhage and shock due to hypofibrinogenemia due to placenta praevia and rupture of the uterus in labor.

The patient showed no abnormalities and received routine prenatal care until her eighth month of pregnancy. She was then admitted to the hospital for minimal bleeding, evaluated with a consultant and returned home.

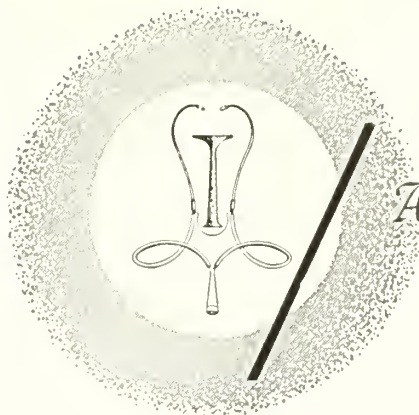
She was readmitted to the hospital two weeks later with increased painless bleeding from a marginal placenta praevia. The cervix was dilated 2 cm, the presenting part floating. An intravenous Pitocin drip was given, 4 minims over a period of four hours, starting labor which seemed to progress satisfactorily then abruptly ceased with the cervix 4 to 5 cm dilated. Two hours later she was in severe shock with unobtainable blood pressure or fetal heart sounds. Delivery was then done easily by breech extraction and examination then showed a large tear in the posterior wall of the uterus. A laparotomy was immediately done in the delivery room. In the peritoneal cavity 800 cc of free blood was found with additional blood in retroperitoneal hematomas. Following improvement for about two hours, she began bleeding from the bladder. Four gms of fibrinogen were given after a determination of 40 mg. She received 3,000 cc of blood and 3,000 cc of other fluid, Solu-cortef and Levophed but died in shock some 12 hours after the Pitocin drip. An autopsy confirmed the previous diagnosis and findings.

Committee Opinion:

The committee felt that although this patient was well cared for, the choice of Pitocin to induce labor was unnecessarily hazardous as compared to rupture of the membranes. The use of Pitocin in older grand multiparas has been shown to be of increased risk. The committee is impressed with the frequency in which Pitocin has been used in cases of maternal death and urges its use only in cases where clearly indicated and then under constant physician supervision.

Classification:

Maternal death, obstetric, preventable.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

JUNE

- June 18-22 American College of Chest Physicians, San Francisco. Exec. Dir.: Murray Kornfeld, 112 E. Chestnut, Chicago 11.
- June 18-19 American Pediatric Society, San Francisco. Write: C. M. Riley, M.D., 2800 E. Cedar Ave., Denver 9.
- June 21-25 American Medical Association, San Francisco. Exec. Vice Pres.: F. J. L. Blasingame, M.D., 535 N. Dearborn, Chicago 60610.

JULY

- July 5-10 American Physical Therapy Association, Denver. Write: Helen J. Hislop, Ph.D., 1790 Broadway, New York 19.
- July 10-11 Rocky Mountain Cancer Conference, Denver. Write: N. Paul Isbell, M.D., 1809 E. 18th Ave., Denver 80218.

AUGUST

- Aug. 23-28 American Congress of Physical Medicine and Rehabilitation, Boston. Exec. Dir.: Glenn Gullickson, Jr., M.D., 30 N. Michigan, Chicago.
- Aug. 24-27 American Hospital Association, Chicago. Dir.: Edwin L. Crosby, M.D., 840 N. Lake Shore Dr., Chicago.

SEPTEMBER

- Sept. 11-12 Annual West-Northcentral Conference on Diseases Common to Animals and Man, University of Nebr. College of Medicine, Omaha. Write: H. W. McFadden, Jr., M.D., Univ. of Nebr. College of Medicine, 42nd & Dewey Ave., Omaha 5.

- Sept. 17-19 National Cancer Conference, Philadelphia. Write: Coordinator, 5th Nat'l Cancer Conference, American Cancer Society, 521 W. 57th St., New York 19.

POSTGRADUATE COURSES

American College of Chest Physicians.

- July 27-29 *Respiratory Allergy and Immunity*, Chicago.
- Sept. 24-26 *Electrocardiograph in Infants and Children*, Detroit.
- Sept. 28-30 *Environmental Diseases of the Heart and Lungs*, Cleveland.

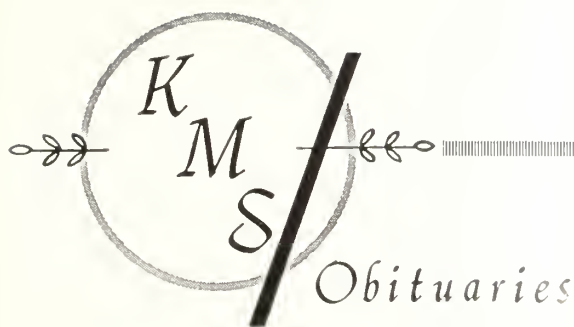
For more information on above courses, write to the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

University of Colorado postgraduate courses:

- July 6-9 *Ophthalmology*
- July 20-25 *10th Annual General Practice Review*
- July 29-31 *Cardiology*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

"Recent Advances in the Control of Respiratory Virus Diseases, Including Exanthemata" is the subject of this year's Caleb Fiske Prize Essay competition. A cash prize of \$500 is offered. For complete information write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis St., Providence, R. I. 02903.



WILLIAM F. ABRAMSON, M.D.

William F. Abramson died on April 30, 1964, at his home in Topeka. He was 69 years old. He was born on August 27, 1894, in Bedford County, Pennsylvania. He was graduated from the University of Illinois School of Medicine in 1925 and came to Topeka to organize the eye, ear, nose and throat section of the Security Benefit Association Hospital. After serving as state ophthalmologist for two years Dr. Abramson continued in private practice in Topeka.

Survivors include his wife, two brothers and a sister.

GEORGE M. EDMONDS, M.D.

George M. Edmonds, 60, Horton physician, died on April 29, 1964, at the Horton Hospital. Dr. Edmonds was born at Tina, Missouri, on December 20, 1903, and was a graduate of the University of Missouri and the University of St. Louis School of Medicine, receiving his medical degree in 1927. He began practicing medicine in Horton in 1927.

He is survived by his wife, a daughter and three sons.

NORMAN B. FALL, M.D.

Norman B. Fall, Colorado Springs, died on April 13, 1964 at the age of 73.

Dr. Fall was born February 7, 1891, in Hutchinson, Kansas. He received his medical education at Louisville School of Medicine and graduated from that school in 1913. He practiced medicine in Winfield for a number of years, moving to Colorado Springs after his retirement in 1959.

B. DOUGLAS FRIERSON

B. Douglas Frierson died on April 12, 1964, from injuries received in an automobile accident. He was 33 years old.

Born on April 19, 1930, in Anderson, South Carolina, Dr. Frierson was graduated from the Medical College of South Carolina in 1955. At the time of his death he was chief psychiatrist of the Biddle Section at the Topeka State Hospital and had been a member of the hospital staff since 1960. He was also on the staff of the Mental Health Center of East Central Kansas at Emporia.

His wife and three children survive.

PERRY A. LOYD

Perry A. Loyd, 82, of Salina, died on January 13, 1964.

Dr. Loyd was born at Alton, Kansas, on September 11, 1881. He received his medical degree from the Kansas Medical College in 1909. He began his practice in Salina in 1917 and continued there until his retirement.

Surviving are his wife and two sons.

The Kansas Medical Society—1964-1965

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Leavenworth.....	William C. Strutz, Leavenworth.....	William Holwerda, Lindsborg
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Pawnee.....	David H. Davis, Larned.....	Bill L. Braden, Wamego
Pottawatomie.....	Thomas Dechairo, Westmoreland.....	Will D. Pitman, Pratt
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Wyandotte.....	C. L. Young, Kansas City.....	



Government in Medicine

Economic and Political Trends in Canadian Medicine

K. R. TRUEMAN, M.D., *Winnipeg, Manitoba**

THE BRITISH NORTH AMERICA ACT passed by the Parliament of England created in 1867 the union or confederation of all the British Colonies remaining as such in North America. These colonies became the original provinces of what is now Canada and the provisions of the Act guaranteed the provinces the power to administer within their boundaries matters of justice, education and health. These responsibilities have been regarded by the provinces as essential rights as Canada approaches the first century as a self-governing nation. However, although the central government of Canada in Ottawa has no direct role in health matters, nevertheless, as will be described, it can play a very important part indirectly. This is because of its control over the great proportion of public funds and so the Canadian government is able to make available grants of money to the provinces under statutory conditions it sets down. These conditions determine the manner in which the grants may be spent by the provinces accepting them.

Organized medicine in Canada, like our confederation, is also approaching the century mark and is represented by the Canadian Medical Association and its ten provincial divisions. For over 50 years our association has been concerned about methods of payment for medical care rendered Canadians. In 1943 the association approved officially the adoption of the principle of insurance to prepay medical expenses and "favored a plan of health insurance which would secure the development and provision of the highest

standard of health services, preventive and curative, if such a plan be fair to both the insured and to all those rendering the service." The Canadian Medical

Our neighbor to the north has been having problems of government participation in medical care also. This article relates the background of events there, and realistically appraises the different opinions and plans. Much of it is also applicable to the planning for medical care in the United States.

Association also recommended that the provincial divisions meet the public desire for prepayment of medical care by plans sponsored by the medical profession in accordance with general principles determined by the Association. Ever since, the Association and its divisions have continued to affirm the spirit of its principles, viz., voluntary prepaid insurance for those who can pay, and government and the profession in cooperation to meet the needs of the poor.

Physician Sponsored Plans

The Canadian doctor-sponsored insurance schemes, conceived during the second world war, have been increasingly successful. This is recognized by their enrollment of approximately half the population. Thus of the population of nearly one million in Manitoba over 490,700 people are subscribers in the Manitoba Medical Association sponsored plan.

* Presented before the Shawnee County Medical Society in Topeka on November 4, 1963.

This plan, Manitoba Medical Service as it is known, is outstanding in the wide range of benefits it covers for the subscriber. Beyond the premium no extra charge may be made by the doctor unless the subscriber's income exceeds ten thousand dollars. The service possesses no exclusions or restrictions nor indemnity or other deterrent features and is available to anyone who can pay the premium without reference to pre-existing conditions or age.

Generally the other professional-sponsored plans in Canada compare in scope and philosophy with that in Manitoba. The very liberal benefits available through these plans answer the criticism that the voluntary prepaid medical plans tend to be incomplete in coverage or abound in restrictions. Furthermore these plans act as a standard for the insurance industry competing in the medical insurance field and also tend to modify their premiums. It may be estimated that about 70 per cent of Canadians are largely protected by insurance against the cost of illness. Of the balance some prefer to meet their medical costs directly while others are in an income bracket too low to pay the subscription rates.

Until recently the social assistance recipients and indigents received their medical care without charge from the profession. The tradition of government assistance has grown up in later years. Now, however, by a variety of arrangements, the provincial governments are paying about half the doctors' fees for services rendered to social welfare recipients and are furthermore moving towards providing aid for the low income earners.

Government Financing

In the last seven years at least four significant events mark the extraordinary advances the federal and provincial governments have made in the payment for health services to individuals.

1. In 1957 the Canadian Parliament passed the Hospital Insurance and Diagnostic Service Act without a dissenting vote. This provided the federal government with the authority to contribute to the provinces in respect to hospital insurance programs to be administered under statutory conditions laid down by Ottawa. To qualify for the grants the provincial governments are required to make the program available to all residents. Furthermore under the Manitoba and the other provincial enabling acts every resident is required to insure himself and his dependents against the cost of hospital care. So politically attractive was the financial grant offered by the central government that it became politically necessary for one province after another to accept it and now almost all Canadians are protected against the basic costs of hospital care. In turn, citizens in different provinces pay special premiums, income tax, sales tax or all of these as their contribution to the total provincial bill

for hospital services. The balance is met by a grant of 40 per cent of the total by the federal government and the province pays the remainder from its general funds. Manitoba administers its hospital plan by a commission of laymen and doctors appointed by the provincial government.

The hospitals, although they continue to be self-governing institutions, are dependent entirely upon allowances from the hospital commission. These amounts are assessed on the basis of a yearly hospital budget to which is added annually a small increment to meet rising costs of operations. The hospitals, however, continue to be responsible for raising funds for capital expenditures such as construction. On the other hand they have been freed of their previous indebtedness resulting from operations and building programs. The hospital administration can apply itself entirely to management no longer burdened with the problem of deficit financing. The foremost advantage to the citizens is the sharing of the total costs of hospitalization by the community. Thus no individual will ever again be burdened with the vast expense of a lengthy illness requiring hospitalization. As a consequence he should not hesitate to undergo medical care because of the fear of hospital costs.

While this is so there are obvious defects in the arrangement. The hospitals face the loss of the public support they depended upon formerly for the costs of construction and the like. Private donors, rightly or wrongly, are convinced that they have done their duty to the hospital system when they have paid their hospital plan premium and their hospital tax. The autonomy of the hospital could turn out to be a myth, with the freedom of choice of the individual hospital boards increasingly circumscribed by the financial control exercised by the hospital plan, the Manitoba Hospital Commission.

There is no doubt that the original concept of a hospital insurance scheme to pay patients' hospital bills is rapidly involving government in hospital administration as well as accounting. As this happens there is mounting anxiety that hospitals may lose the services of large numbers of dedicated volunteer workers, including the members of hospital boards. It is now recognized that a single source of funds influences what is available for patient care and will no doubt be increasingly felt in the provision of medical services within hospitals. Therefore it is reasonable that the Canadian Medical Association now seeks to associate itself with the Canadian Hospital Association in order to obtain an examination by the federal government of the effects of government's participation in the area of hospital service.

One may believe also that government is hardly desirous of taking over complete control of financing operations of the hospitals. Of all the several courses of action to resolve this anxiety a new kind

of regional administration for the hospitals may offer the best hope for a permanent solution to the problem. Its greatest advantage lies in the fact that it alone could lead to a strengthening of effective local control of hospital services. A regional board with representatives from the municipalities and hospital boards, and especially with strong representation from those independent members of present hospital boards who have made such an effective contribution, would be in a position to exercise control over the use and expansion of hospital resources. A great advantage to offset the spiralling costs of hospital care, would be to assume from the provincial authority the job of deciding a community's hospital needs and where facilities should be. By controlling hospital expansion in the whole region, wasteful duplication of services between the hospitals could end. A planned regional authority would perpetuate our voluntary system and could make the local autonomy in the hospital field more of a fact and less of a fiction that it has become. In Manitoba the principle is being seriously considered and a pilot scheme is on the draughting board.

Study by Commission

2. The second event was the creation in 1961 by the federal government of a Royal Commission on Health Services designed to examine and recommend on all matters pertaining to health in Canada. This was partly instigated at the request of the Canadian Medical Association. The Association believed that the vast public interest in government participation in medical services would be best met by a study of the facts by an enlightened independent commission separated from the pressures and urgency of the political atmosphere. The commission travelled the breadth of Canada to hear many submissions from interested parties regarding what is lacking or should become available in the Canadian health picture and a great store of information has been gathered. It is understood the Commission will report shortly. Organized Canadian medicine made use in every province to emphasize among other things:

(a) The need for additional medical and paramedical personnel. Canada presently enjoys a favorable doctor population ratio because of immigration of doctors which, though still substantial, is now an uncertain source of supply. It may interest you that our 11 Canadian medical colleges educate Americans approximately equal in number to the total output of one average-size U. S. medical school. Most of the American students return home to practice. There are not enough Canadian candidates to replace these non-Canadian students.

(b) Support of new programs in treatment of mental illness.

(c) The principle of voluntary prepaid insurance.

In this matter the profession advocates a plan for medical services which will provide for those who cannot pay and permits those able to insure themselves the right to do so voluntarily.

(d) Provision of needed physical facilities.

It is certain the Royal Commission will have advice of a far reaching nature in its report concerning government's responsibility in the provision of medical services for citizens. No doubt there will be special emphasis on the manner for which they should be paid.

Compulsory Participation

3. Saskatchewan. Ever since 1944 when the only socialist government ever to be elected in Canada came to power in the province of Saskatchewan it had promised a complete system of socialized health services so that everybody would receive adequate medical, surgical, dental, nursing and hospital care without charge. Indeed a hospital payment scheme was introduced early in the regime which is essentially the prototype of those found in the other Canadian provinces today.

In 1960, Mr. Douglas, then the Premier of Saskatchewan, announced his government, if re-elected, would introduce legislation to fulfill the promise of 1944. The government was returned although with a reduction in the popular vote in an election which found the medical profession embroiled in the issue of the medical plan. A commission was formed to advise means of formulating the new plan. The terms of reference required that the plan be compulsory and universal for all citizens, be prepaid, be under government control and, ironically, be acceptable to the doctors. In January 1962, enabling legislation for the Saskatchewan Medical Care Insurance Act embracing the required principles was passed without approval of the medical profession. The Act was implemented on July 1, 1962. The Saskatchewan medical profession, having publicly voiced their disapproval at a general meeting of their association at an earlier date, undertook to withhold normal professional services while setting up across the province hospital based centers for urgent and emergency cases. This situation continued 21 days with good medical services following which normal services were re-established at the decision of the doctors. This decision was determined by:

(a) Inability to maintain the emergency service as doctors were preparing to leave the province.

(b) Replacement of Saskatchewan doctors by British doctors brought in by the provincial government, most of whom were ill-informed concerning the issue but were paid a princely salary by British standards.

(c) Possible irreversible damage to the university medical school.

(d) The belief of the majority of the profession

that for moral reasons normal practice should be withheld no longer.

(e) The concession on government's part to amend the Act in order to eliminate the compulsory features affecting medical services and preserving freedom in the practice of medicine. These changes were made constitutional at a special sitting of the Saskatchewan legislature later in the summer of 1962. Thus an armistice was reached without the profession able to prevent the compulsory paying of premiums by their fellow citizens to a government department for medical services.

Perhaps to understand what was at stake a little attention should be given the Saskatchewan situation and one can do this well by following these remarks by Ian W. Outerbridge, a Toronto lawyer, in an address to Canadian dentists:

"Consider if you will an act on the statute books in one of our provinces which provides that a government commission is given the exclusive power of 'prescribing the arrangements to be made for payment to physicians and to other persons providing services.' It is given 'exclusive power for the establishing, maintaining and altering lists of persons entitled to receive payment for . . . services.' It has the sole power to prescribe 'the rates of payment to be made to physicians . . . and the methods of assessing accounts.' It has the exclusive right to determine 'the manner and form in which any other required information shall be submitted' and, of course, it has power to determine 'the kind of information to be procured under any provision of the Act.' It has exclusive authority to determine 'the manner and form in which payments to physicians . . . shall be made.' And it has sole authority to determine 'the terms and conditions on which physicians and other persons may provide medical care to the people of the province.' The Commission may make these decisions unilaterally and without reference to the health professions. Nowhere in the legislation is there to be found any requirement for consultation with the representatives of the profession or any provision for negotiations *collectively* or otherwise. In all good conscience no Canadian government could countenance such a measure if applied to the members of a trade union. Such a measure would rightly be described as iniquitous, designed to promote company unionism, company domination, authoritarianism and worse. No government in Canada would dare introduce such a measure if it were applied to the organized labour movement."

Yet these were the iniquitous provisions of the much-disputed Section 49 of the Saskatchewan's Medical Care Insurance Act.

In effect among other things this legislation sought to remove the control of the profession from the professional governing body and place it in the hands of a government controlled commission. The great majority of Canadian doctors feel that they owe a debt to their Saskatchewan colleagues in their stand

for professional freedom and the principles of medical practice we hold to be good.

Looking back on the tragedy of the Saskatchewan situation one must accept, the specific advantages and defects of the government plan aside, that the basic dispute was, and still is, ideological. It often appeared the basic failure was one of communication. It seemed that the two sides could not understand what each other was saying. The public for the most part viewed the issue in terms of dollars and cents. The Saskatchewan government regarded medical cost and care problems from the socialistic viewpoint which held government to be custodian of public welfare. The doctors did not. Two ways of life, the collectivist and the individualist clashed—the result was a compromise in which the doctors retained their professional freedom.

In the rest of Canada the profession and the various provincial governments watch with keen interest this venture into a state subsidized and partly controlled compulsory medical service. It is regarded as an important socio-political medical experiment which can influence medical practice in our nation. In Canada all the national political parties have demonstrated a real interest in a method of payment for medical services. This was most evident during the trial in Saskatchewan in 1962 which coincided with a federal election, when the issue about medical services almost became one of the foremost. So patently did three of the four national political parties vie to join the medical services' bandwagon that one was readily led to recall the poem, "The Purist," by Ogden Nash, which goes like this:

I give you now Professor Twist,
A conscientious scientist,
Trustees exclaimed, "He never bungles,"
And sent him off to distant jungles.
Camped on a tropic riverside,
One day he missed his loving bride,
She had, the guide informed him later,
Been eaten by an alligator.
Professor Twist could not but smile,
"You mean," he said "A crocodile."

Alligators, crocodiles, lions, tigers or elephants, Liberals, Conservatives or Socialists—what is in a name? At that time they were all ready to devour us.

Voluntary Plans

4. Alberta and Ontario. In 1963 both these wealthy provinces have introduced legislation to provide subsidy or assistance to those of low incomes, undertaking in a voluntary manner to purchase insurance against the cost of medical services. There is no compulsion. The arrangements are being made by decision reached by government in consultation with the medical profession in these provinces, their doctor-sponsored insurance plans and the insurance

industry. The subsidy in Alberta, for which about 300,000 people are eligible, is already being paid to the insurance carriers and the latter pay the doctors' bills. The more economically independent continue to purchase insurance or pay the doctor directly as they see fit. The social welfare recipients remain the joint responsibility of the government and the profession.

In the remaining seven provinces governments appear to be reflecting on events in Saskatchewan and the uneasy truce which exists between its government and the profession and where another election will shortly take place. They are watching also the new deals in Alberta and Ontario. Finally they are waiting for the federal government to reveal its plans. A major financial contribution, as in the case of the Canada Hospital Insurance Act, undoubtedly would influence the other provinces to resume the march to greater participation in the health and medical services. It is very doubtful, however, that any province in the future will introduce legislation approaching the compulsory features originally embodied in the Saskatchewan Medical Insurance Act. The federal government will probably base any decision chiefly on the findings and recommendation forthcoming from the work of the Royal Commission on Health Services.

The CMA Position

In the meantime the Canadian Medical Association has completed for study by the profession a review of its policies in relation to its full responsibilities to society. In a statement which may become accepted as policy the Association reaffirms its primary objective, and that of the profession, is to provide the Canadian people with medical care of the highest quality. The committee charged with framing the statement emphasizes that the development of this objective should be consonant with those liberties which are the basic tenets of our democracy. Thus the medical profession affirms that no citizen, be he patient or physician, should be required to conform to a pattern of medical care which is unacceptable to him, except in regard to public health measures for the protection of other members of the community. The statement declares further:

"The quality of medical care depends upon many factors, their inter-relationship, focus and proportion. Among these factors are medical and paramedical personnel, their calibre, training and number; facilities, their adequacy, location and number; the citizen as a patient, community and as government; the economics of care and their impact on patient and doctor; and the state of medical knowledge which in turn may depend on society's investment in medical research. The quality of medical care is vitally dependent on the manner in which responsibility is shared between the medi-

cal profession, the public and government. It is essential to appreciate that changes in medical knowledge and techniques frequently alter the most effective division of this responsibility. Thus scientific advances which have led to an increase in man's life span have profound implications, not only medical, but socio-economic as well. Since the direction of change of medical knowledge is largely unpredictable, the system of sharing responsibility must be flexible and capable of rapid adaptation to changing circumstances. The medical profession, in seeking to provide the expanding benefits of its scientific progress, must also be prepared to adjust to the social, financial and economic issues which accompany them."

The new policy review of Canadian medicine of necessity places emphasis on economic problems and the position of government relative to medical services. It goes to considerable trouble, however, to re-establish the traditional reasons for such things as the patient-doctor relationship. This must not be regarded as an anachronism or naive. We feel that this simple evidence of trust between individuals still represents one of the cornerstones of good medical practice and the confidential nature of this must be respected. It is threatened increasingly by the advent of the insurance mechanism, private and governmental. In another area the recruitment of medical students, appropriate change in curriculum to meet some difficulties in modern practice, some effort to direct specialty-minded graduates into fields which need strengthening and to meet the needs of the community and continuing education of our graduates must engage more of our attention. We are concerned about our relationships with the rising problems in hospitalization and have new responsibilities here and in the field of professional self-discipline.

We think that any consideration of economic, political and practical factors in the provision of medical care and the assurance of its quality must begin with the realization that medical care without limit is an unattainable ideal. Unlimited services would be so prohibitively expensive and make such demands on our manpower and facilities that it would become totally impractical long before perfection could be achieved.

Excellence of care must therefore be the best compromise in which the most effective balance is reached between needs and demands of the patient and the country's ability to provide manpower, facilities, education and research. Thus the quality of care bears a general relationship to the state of the economy of the nation at any given time. Therefore, as mentioned, the most effective balance will be influenced by unpredictable changes in the economy and in medical science and so any system of dealing with the economics of medical care must be sufficiently flexible to acknowledge these changes and adjust to them.

It is our belief that any system of payment for medical services should encourage responsible attitudes among the patient, physician, community and government and should not interfere seriously with such responsibility or else it would then disturb the balance and adversely affect the quality of care. The limitation of our resources, both human and material, requires objectivity in their distribution and demands the education of the public to the fair and sensible utilization of services and facilities.

Influences for Changes

Once upon a time medical services were distributed according to the forces of the market place. New forces (government for one) are now changing the traditional methods. Another is the demand for medical services insurance. Insurance was originally sought as protection against catastrophe but now there is an increasing demand for the complete cost of medical service by budgeted prepayment. The doctor-sponsored schemes in Canada have encouraged this arrangement, but anxieties are arising from experience as to the general benefit of this philosophy.

Complete prepayment of the cost of medical services has two effects which were not originally anticipated. One is that the subscriber no longer has any responsibility for payment at the time he receives service. Having at some earlier time paid a premium he may no longer consider his own needs in relation to his own economy; rather he takes cognizance of his desire for service. He may feel little concern about the effect of his actions on the total cost of the plan to which he subscribes, on the availability of doctors' services and facilities or on the competing needs of others.

The other effect is on the doctor. Insurance prepayment mechanisms, especially in our doctor-sponsored schemes, are organized on the basis of an average fee for an average service. This situation assumes the doctor will accept the average fee in full and puts pressure on him to average his service in relation to it. Fee schedules, which were developed as guides, have tended to become absolutes no longer recognizing experience and seniority. These factors place for the doctor a premium on volume medical care and produce a danger that the quality of medical care to the individual may suffer, lead in turn to over-utilization and so abuse the economy of the plan. The abuse is aggravated by the loss now of the traditional contract between patient and doctor because of the intermediary position of the third party or insuring element. Thus the patient is often left unaware of the cost of this medical service and he is no longer educated as to his responsibility towards the doctor's time and the value of the service he receives and the doctor need not justify his fee for the treatment he provides.

Because it is difficult for the doctor to be both the guardian of the insurance plan and be a truly personal physician we are led to believe a patient, if financially capable, must share responsibility through a financial commitment in each item of service. Otherwise, the economy, either of insurance plan or government, will require the imposition of artificial controls which will result in inflexibility and threaten the quality of care, especially for those whose situation or illness differs from the average. Probably the pattern of practice would remain unaffected if total prepayment is limited to only part of the population. It is feared deterioration would be certain should prepaid insurance on a total prepayment basis apply to the whole or a large portion of our people.

Furthermore in the provision and purchase of medical care insurance we hold the view that an individual should be able to make his own choice of economic arrangements. We are uncertain which is the best economic arrangement for medical services. In Canada certainly existing means have been limited because of the scope of our population. Elsewhere plans of a national character have been applied under different economic conditions and other patterns of utilization. Therefore we think there should be multiple agencies for various methods of insurance tailored towards individual needs. Despite the preoccupation of our profession in its sponsored plans we hold increasingly that competition between all agencies and carriers, among other things, prevents any of them from obtaining total control and therefore from using the power of a monopoly to abuse that control.

Inherent in monopoly are the detrimental effects of a single source of funds on the quality of care. Without undertaking to develop this theme it may be said reasonably that a single source of funds, whether private or government, places the rationing of services and facilities in the hands of a central agency which becomes both arbiter and dictator and so aggravating further any adverse effects of prepayment.

Government and Public Health

Turning to the role of government as it applies to our problems we believe democratic government has the general responsibility in all undertakings to promote the public safety and to protect groups and individuals within society. In the field of health, government is charged with setting standards essential to the public health and safety, and to establish the necessary authority to make these effective. Further, the duty to protect individuals and groups within society involves government in responsibility for assistance to those individuals who are unable to provide personal medical care for themselves, either be-

cause of inadequate financial resources, physical or mental disability, the prolonged nature or severity of an illness, or because of inadequate communication and transportation facilities. In the same way government has a responsibility for assistance where otherwise one community would carry the cost of a facility or service beneficial to a larger area.

Inflexibility a Drawback

The medical profession strongly supports these activities of government and urges governments to pursue them realistically and act on them effectively. However, government has certain inherent limitations which can adversely affect the quality of medical care. Government is by its nature inflexible, and its operation is not suitable to caring for the individual as opposed to the mass. Its financial resources, although unlimited in theory, do have limitations in practice.

Because the quality of personal medical care is so dependent on its being focused on the individual, government should not itself enter into the provision or administration of personal medical services, but rather should limit its involvement to the provision of financial assistance for those who need it. Government activity in the field of medical care should not be exercised in such a way as to curtail individual freedom or personal initiative.

Government by its very nature has additional problems when it becomes either the sole controlling agency, or a major financial contributor towards medical services insurance. Government is not only a central agency remote from the individual problem, with a relatively inflexible budget, but in its allocation of the available tax monies its decisions frequently may have a political basis and/or bias. Thus, even though government may give objective consideration to the needs and wants of the public in the medical care field, it nevertheless has to compare the political advantage of these expenditures to those of expenditures in other fields.

Most governments are short of revenue and governmental administration is expensive. As a result government tends to prefer the simplest administrative solution to a problem. This increases the solution's inflexibility and in the medical care field makes it less suitable for the complex range of individual situations and problems.

As the sole controlling agency for medical services insurance, either directly through administration by a commission or government department, or indirectly through being the sole source of funds, government would find itself compelled by budgetary restrictions or by utilization, to institute controls.

If, however, government proposes by some universal plan to assist the individual with the financing of his medical services insurance, it must recognize the potential effects of the method and extent of this

assistance on the quality of medical care, or it will fail in its avowed desire for improving this care.

Help Where Help Is Needed

The Canadian Medical Association believes that public funds should be used to finance medical services for the indigent group so that they may obtain medical care on the same basis as any other citizen. Lack of patient participation in the economy of these plans will contribute to over-utilization and overservicing. However, it is felt that this would have little effect on the ability of the profession to maintain the over-all quality of care, because this group is small. It is also felt that this effect can be minimized if the profession maintains its traditional subsidy in service to the group, and if it were to continue to administer their medical care programs. This system has proved itself to be workable and efficient in the various social assistance medical care plans.

The marginal income group constitutes a larger segment of society, and government should recognize that the impact of subsidization, insofar as it relieves the individual of personal responsibility, will have a greater effect on the availability and quality of medical care. This impact will be the greater, the larger the group and the more financial assistance relieves the individual of responsibility.

The profession in Alberta and Ontario agrees that persons in this group require some assistance from public funds to purchase medical services insurance. Such insurance provides comprehensive benefits involving no charges beyond the premium.

There are problems involved in this arrangement as it is expressed in Alberta. It has been pointed out that government subsidizing, wholly or partially, insurance contracts for the needy and the near needy will make government the single largest purchaser of medical services insurance in the province. Therefore government will be interested in the cost. Two items, the fee schedule and utilization, affect the cost. The profession is entirely responsible for the fee schedule and partially responsible for utilization. It is suggested the fee schedule will involve increasing scrutiny by government. It is also apparent that rival political parties seeking votes will promise to increase the subsidy or enlarge the group eligible to receive it. Thus there is the danger that a plan, initially sound, will become an unrestrained one requiring budgetary restrictions and rules with resultant deterioration of the quality of care.

It is the responsibility of organized medicine to voice a clear warning to government of this possibility. Medicine is on solid ground when it champions the quality of medical care and any challenge to this should be resisted by us as authorities. Government would be wise to limit its financial assistance to the

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Anemia of Pregnancy

Economic Aspects of Hematinic Therapy

PAUL A. KAEHLSON, M.D., *Wichita*

ALL OF US in private practice have sometimes wondered why the anemic obstetrical patient fails to respond to oral iron therapy in the correction of anemia. Perhaps the diagnosis is wrong in that there is a 5 per cent possibility that the cause of anemia is not due to iron deficiency alone.¹ Our next thought is "is the patient taking the hematinic prescribed?" We then learn in questioning the patient that she is not taking the iron medication prescribed for the simple reason that there are payments for a new car, a television set, etc., and the drug simply was not purchased. The high incidence of iron deficiency anemia seems to indicate that many patients do not take their prescribed iron.²

It occurred to me that a study might be done that could eliminate the economic side of the problem if I would dispense the drug to the patient at no cost. It has been reported that 19 per cent of the prescriptions are never filled and that 40 per cent are never refilled.

In the selection of the hematinic I planned to dispense I had two thoughts, first it must be a good drug and secondly it had to be inexpensive if for no other reason than the fact that I was going to pay for the drug myself. Ferrous sulphate met the requirement perfectly. Ferrous sulphate USP is the drug of choice for iron deficiency patients and it is inexpensive (12 cents per hundred). In a brief review of the literature it appeared that no such study had ever been done on private patients.

The study was planned to answer these questions: (1) Would the patients take the drug? (2) Would the economic reason be important? (3) Would the drug correct the anemia? (4) How well would ferrous sulphate be tolerated?

Method

Fifty consecutive obstetrical patients were selected for the study and given ferrous sulphate five-grain tablets in packages of 50 in each envelope. I recorded the date that the patient should have used the tablets and asked her at that time if she needed more tablets. If the patient reported that she still had plenty it was obvious that she was not taking the tablets as suggested. I also used another method of checking the patient when she was near term in that I would do a rectal examination to check the con-

sistency of the cervix and then note the color of the stool on the examining glove. A hemoglobin and hematocrit was done on each patient on the first visit and this was repeated on the third postpartum day. I used as controls a series of 50 patients taking Mol-Iron®* as prescribed by another physician and ob-

Ferrous sulphate tablets were dispensed to 50 private obstetrical patients to eliminate the cost factor in the treatment of anemia. The study resulted in the following conclusions:

- 1. Ferrous sulphate was well tolerated.**
 - 2. Economic reason was not important.**
 - 3. Obstetrical patient did not take medications as faithfully as geriatric patients.**
 - 4. Postpartum blood values were not accurately predictable.**
-

tained the results on his patients. (Hemoglobin and hematocrit taken on the third postpartum day.)

I made no mention to the patients that they might experience some side effects from the ferrous sulphate. I simply gave instructions as to the number of tablets to be taken per day and asked that they let me know when they needed more medication.

Results

Using the methods of checks outlined above I felt that 16 per cent of the patients did not take the drug consistently. One patient could not tolerate the ferrous sulphate and another patient could take neither Mol-Iron nor a vitamin. The laboratory results on the third postpartum day were as follows:

	32 Patients FERROUS SULPHATE	50 Patients MOL-IRON
Hemoglobin	12.4	12.4
Hematocrit	38.5%	39.3%

I then took the original laboratory values taken on

* White Laboratories, Inc., Kenilworth, New Jersey.

the first obstetrical visit and with my judgment as to how faithfully the medication had been taken and the blood loss at delivery, I attempted to predict the laboratory values that should be obtained on the third postpartum day. I was unable to make any correlation.

Discussion

Ferrous sulphate is the drug of choice in 95 per cent of the anemias of pregnancy.³ It is well tolerated and is inexpensive. I am appalled at the number of hematinics on the market and also at the stress that is placed upon the safety and palatability. We, as physicians, have almost forgotten that the treatment of the disease of the patient is primary and that the possible side effects should be considered secondarily. Most new hematinics are not compared to ferrous sulphate and they do not stand up to the critical appraisal.⁵

There is much evidence to support the thought that the "physiologic anemia of pregnancy" is a common misconception and misnomer.⁶ Hunter has said that the papers of Lund, Sisson and Holly should bury the idea of the so-called anemia of pregnancy.⁷ Kerr and Davidson⁸ have suggested that iron therapy begin with the first visit of the obstetrical patient if the hemoglobin is below 12.6 grams and recommend the routine administration of 105 mg. of iron daily to all patients from the 24th week to term. Holly has been able to show by bone marrow biopsy that iron reserves are depleted when the hemoglobin falls below 11.5 grams per 100 milliliter and that normal values of pregnant and non-pregnant women should be the same.⁵

Briscoe has shown that women are anemic mainly because of blood loss. This may be because of either menstruation or the loss of blood to the fetus in pregnancy and that in pregnancy the patient is drawing upon her 1,000 mg. of stored iron to give 300 mg. of iron to her baby, unless iron is supplemented in one form or another. The baby will get the iron irrespective of the mother's hemoglobin and she will not store iron until her hemoglobin is normal. We must think of this depleted store and remember that we are not simply treating the hemoglobin but we are treating the patient with anemia.¹⁰

Ferrous sulphate is tolerated much better than we would be led to believe. Kerr and Davidson were able to illustrate this in a well controlled series using various iron preparations and a placebo.¹¹ Apparently there are other factors that account for the "toxicity" (gastro-intestinal complaints). In their series the side effects were about equal in the subjects taking iron and in those taking a placebo which they thought was iron.

The anemia of late pregnancy seems to respond better to iron therapy because of the increased absorp-

tion of iron. Giles and Burton have said that hemoglobin values of late pregnancy should be at least 80 per cent and Holly believes that one should search for a possible source of infection if the anemia is refracting to treatment.¹³

Conclusion

1. Ferrous sulphate was well tolerated.
2. Economic reason was not important.
3. Obstetrical patient did not take medications as faithfully as geriatric patients.
4. Postpartum blood values were not accurately predictable.

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indigent and the marginal income groups based on proper evidence of need. Additional funds available for medical needs should be devoted to items such as those the Canadian Medical Association has recommended for priority in the submission to the Royal Commission. These stressed the need for doctors, facilities and a wide expansion of services for mental illness. If this general approach is accepted it would guard the quality of medical care and also protect efficiency, the freedom of the patient and the doctor and the relationship between them. As long as we attempt to assure these things the profession shall articulate with the rest of society with sympathy and respect.

AUTHOR'S NOTE: On April 23, 1964, the Socialist Government which held its position in Saskatchewan for 20 years, was defeated at the polls by the Liberal party.

Ulcer?—Or Cancer?

Carcinoma of the First Part of the Duodenum

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PRIMARY CARCINOMA of the first part of the duodenum is so rare that we thought this case worthy of reporting. With the popularity of vagotomy and pyloroplasty in the surgical treatment of duodenal ulcer we should probably be reminded that carcinoma can occur in the first part of the duodenum.

Ackerman regards it as an extreme rarity and Schafer relatively rare. He states the suprapapilloma tumors characteristically cause duodenal obstruction, producing a clinical picture not unlike that which results from carcinomas of the antrum and pyloric canal. Nausea, vomiting and epigastric distress, followed rapidly by loss of weight and strength, are the usual complaints. Bleeding from the tumor may occur. Most writers in discussing carcinoma of the duodenum divide it into three main divisions: namely, supra-ampullary, the periampullary and infra-ampullary. It is the supra-ampullary duodenal carcinoma in which we are especially interested. Berger and Kopelman in 1942 reported one case of duodenal carcinoma and reviewed the literature. They reported 386 proved cases and stated that 20 per cent were supra-ampullary, 65 per cent were periampullary and 15 per cent were infra-ampullary. There have been several reports in the literature since then and most of the lesions have been present in the middle and third part of the duodenum. Eger collected 350,286 autopsied cases and reported the distribution of primary duodenal carcinoma as follows: first portion of the duodenum 23.9 per cent, second portion 61.9 per cent, third portion 12.1 per cent, and entire duodenum 1.9 per cent. Hoffman and Pack state that carcinoma of the duodenum constitute 0.3 per cent of all intestinal cancer.

Alexander reported the sex incidence of carcinoma of the duodenum favored males over females in the ratio of three to one. He thought there was no etiologic correlation between duodenal ulcer and malignancy of the duodenum. Benson brought out that most suprapapillary carcinomas of the duodenum are in the distal part of the first portion and proximal part of the second portion. He wrote that carcinomas in the duodenal bulb are excessively rare.

The treatment of carcinoma of the duodenum is

mainly surgical. Pancreaticoduodenectomy may be done on the lesion involving the periampullary area. Local excision may be carried out or palliative operations such as gastroenterostomy, duodenostomy, cholecystogastrostomy or duodenojejunostomy. Burns and Shields reported a case which was given irradiation

Carcinoma of the first part of the duodenum is extremely rare. A brief discussion of the disease and its treatment has been offered. One additional case is presented.

tion in an attempt to make resection of an inoperable lesion possible. Their patient first had a posterior gastroenterostomy. This was followed by a course of x-ray therapy and later the lesion was resected.

Case Report

The patient was a 65-year-old white male who was admitted to Wesley Medical Center September 30, 1962. His chief complaint was indigestion, heart burn and "regurgitation."

He first developed a "heavy feeling in the stomach" the winter prior to admission. He consulted his local doctor twice without relief and in mid-July his symptoms became more severe and occurred several times daily. Food would relieve him temporarily then "make it worse" regardless of what he ate though raw fruits and vegetables seemed consistently aggravating. He vomited once at night and had frequent nausea. He would also vomit anytime he would bend at the waist even if his stomach was empty. He lost nine pounds in weight from mid-July to late August but regained three and a half pounds.

He was placed on peptic ulcer treatment consisting of antacids, ulcer diet and antispasmodics. In spite of this treatment the patient had substernal burning and sour regurgitation two to five times a day. X-rays (*Figure 1*) revealed a large pyloric ulcer crater on the greater curvature. Because of the patient's age and presence of gastric ulcer he was admitted for a strict regime for two weeks with recheck to exclude or diagnose possible malignancy.

* Submitted under the auspices of the Wesley Medical Research Foundation.



Figure 1. Showing pyloric channel ulcer.

In 1926 a hemorrhoidectomy was performed, and in 1946 he sustained a fracture of a transverse process of one cervical vertebra in an automobile accident. In 1954 a severe thrombophlebitis of the left leg followed trauma. A saphenous ligation was done and the incision became infected making a long convalescence necessary. He had dependent edema for three years following this illness. A basal cell carcinoma was excised from the right side of the face in 1956, and a transurethral resection of the prostate done in 1961, after an acute urinary retention. The family history revealed hypertensive heart disease. Physical examination on admission revealed no significant abnormality.

The patient was free of pain for a few days but then the pain and heart burn recurred. He was given further treatment without help. Further x-rays (*Figure 2*) of the stomach were taken and reported as follows by Dr. John Schlueter: Persistent ulcer crater in the pyloric channel, right at the antrum. There is an additional ulcer seen in the base of the bulb, and the patient exhibits quite a bit of retained fluid from the night before. There is some transient obstruction of the flow of barium through this pylorus.

In view of the persistent symptoms and x-ray findings the patient was taken to the operating room on October 11, 1962, where a subtotal gastric resection was done and a Billroth I procedure carried out. Grossly the duodenal lesion appeared to be an ulcer with surrounding edema and considerable redundant

mucosa. Grossly there was no evidence of malignancy but the lesion was reported by Dr. Tom Hiratzka as being: mucus producing adenocarcinoma of the duodenum. Additional sections revealed superficial ulceration beneath which there was mucus producing adenocarcinoma involving the superficial portion of the submucosa (*Figures 3, 4*). The margin of excision appeared adequate.

Following operation the patient had a smooth convalescence and was subsequently dismissed from the hospital October 21, 1962. He has been seen at intervals and when seen August 2, 1963, he was complaining of abdominal cramping and nausea. He had lost some weight. He was placed on some anticholinergic medication and returned September 23, 1963, when x-rays of the stomach revealed a small sliding hiatus hernia and subtotal gastrectomy Billroth I and anastomosis without further abnormality. He was feeling well at that time and has continued to do well.

Comment

This patient was fortunate to have a small, early lesion and grossly the lesion appeared to be an ulcer. His past history was such that a vagotomy and a pyloroplasty might have been the treatment of choice but a subtotal gastrectomy was done. A wider, more radical operation would have been done if a grossly malignant lesion had been found at surgery. So far



Figure 2. X-ray showing an additional ulcer at the base of the bulb.

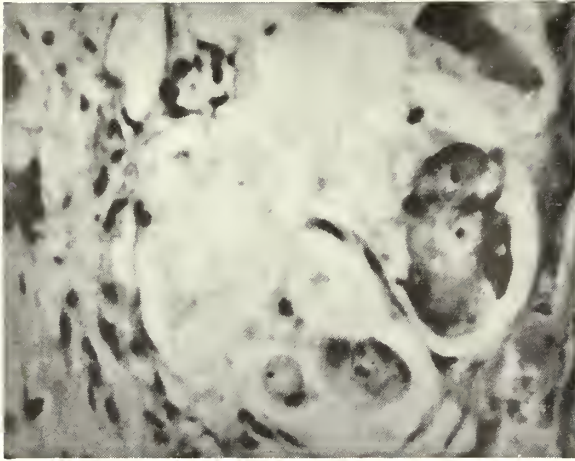


Figure 3. High power photo micrograph showing adenocarcinoma.

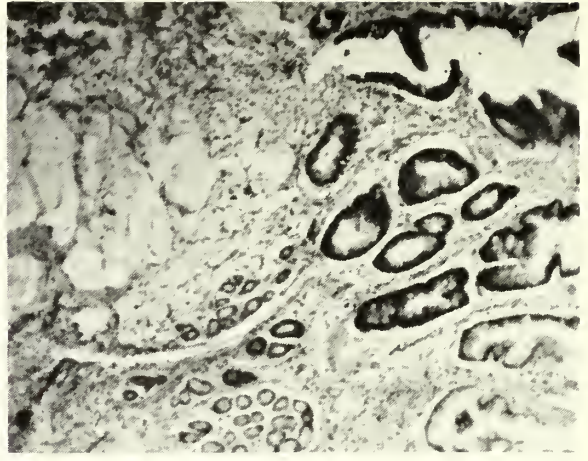


Figure 4. Photo micrograph showing adenocarcinoma.

there has been no clinical evidence of recurrence 16 months following surgery and he has been quite comfortable without complaints.

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GALLEY PROOF CORRECTIONS

There is sometimes a misunderstanding about changes in an article on the galley proofs and the reluctance of the JOURNAL to make extensive alterations. The reason for this is quite simple and easily understood when one knows all the facts. The article has already been set in type. To make extensive changes requires that the typesetting be done over, at an additional cost which may even exceed the original, because it is slower work to fit pieces together than to set an entire article in type. It is also obvious, when one stops to think about it, that an alteration in the first few lines of a paragraph will probably make it necessary to reset the entire paragraph. This, of course, increases greatly the cost of printing and should be avoided as much as possible. The galley proof is for correction of errors, and a rewriting of the article should be done on the original copy before it is submitted for publication.



Arthritis, Fever, Anemia, Dysphagia, and Dyspnea

THIS 58-YEAR-OLD WIDOW of Greek descent entered KUMC for the fifth time on June 16, 1961, and died about 13 hours later.

On her first admission 27 months before her chief complaint was joint pains, weakness, and palpitation. She had been well until 1952 at which time she began to have tenderness, swelling, heat, and erythema of the joints of the hand. This subsequently involved her elbows, shoulders, knees, ankles, jaws, and back; and it was accompanied by fever, anemia, muscle soreness, and weakness. In 1956 she was started on treatment with adrenal corticoids, but her symptoms gradually worsened.

She had had occasional blurring of vision and diplopia. She also complained of a chronic cough that was intermittently productive of blood-tinged, mucoid sputum, occasional pleuritic pain, moderate effort dyspnea, and palpitation. She had had several episodes of substernal and left chest pain that radiated to her neck and left arm. She had had no orthopnea or paroxysms of nocturnal dyspnea. She gave a history of mild "heart burn," anorexia, and constipation. She also had had intermittent dysuria, nocturia, and frequency. There had been no pregnancies. Her menopause was at the age of 52. In the preceding nine years the patient had lost 50 pounds. She had had bronchopneumonia when she was 29 years old, and again when she was 38.

Her father died at the age of 70 years of "prostate and kidney disease." Her mother died at the age of 80 of heart disease. Eighteen siblings had died of malaria, carcinoma of the lung, carcinoma of stomach, leukemia, asthma, and renal disease.

The patient smoked one-half package of cigarettes daily, and she occasionally drank wine and whisky. She had formerly been employed as a domestic worker.

Edited by Jesse D. Rising, M.D., and Mahlon Delp, M.D., from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third and fourth year classes of students.

The patient's temperature was 98.6; pulse rate, 58 with good rhythm; supine blood pressure, 95/55; and standing blood pressure, 75/55. She weighed 125 pounds, and was 67½ inches tall. She was a well-developed, alert, cooperative, white woman who appeared to be chronically ill and to have lost weight. There was generalized increased pigmentation of the skin. There were tender, firm, enlarged lymph nodes in the cervical, axillary and inguinal regions. The mucous membranes of the nose, mouth and throat were pale. There was a grade II arteriosclerotic retinopathy. The chest was clear to percussion and auscultation. A grade I systolic murmur was heard at the cardiac apex. The heart did not seem to be enlarged. There was mild upper abdominal tenderness. The spleen was palpated 3 cm. below left costal margin. The pelvic and rectal examinations were negative. There was swelling, tenderness, erythema, and heat of metacarpophalangeal, wrist, elbow, shoulder, knee, and ankle joints with interosseous atrophy and ulnar deviation of fingers. Subcutaneous nodules were present over both elbows. The deep tendon reflexes were absent in the lower extremities.

The pH of the urine was 5.5, and the specific gravity was 1.012. There was no albumin or sugar in the urine, and there were 8-10 pus cells and occasional red cells per high power field. The white blood count was 5,250 with 62 per cent neutrophils, 29 per cent lymphocytes, 5 per cent eosinophils, and 4 per cent monocytes. The hemoglobin was 9.9 grams per cent; hematocrit, 33 ml. per cent; reticulocytes, 1 per cent. The platelet count was 199,000. The peripheral blood smear showed microcytic, hypochromic anemia. The VDRL was nonreactive. The blood urea nitrogen was 10 mg. per cent; uric acid, 1.6 mg. per cent; creatinine, 1 mg. per cent; fasting blood sugar, 57 mg. per cent. The serum sodium was 137; potassium, 4.2; chloride, 99; carbon dioxide, 24.4; calcium, 4.6; and phosphorus, 2.3 mEq L. The sedimentation rate was 26, 29, 29 and 30 mm. in 15, 30, 45, and 60 minutes. The LE cell preparation was positive. The serum protein-bound iodine was 3.7 gamma per cent, and the

iodine-131 uptake was 12 per cent in 24 hours. The 24-hour urinary output of 17-hydroxycorticoids was 4.7 mg., and 17-ketosteroids was 4.3 mg. The serum alkaline phosphatase was 1.2 mg. per cent, and the total bilirubin was 0.2 mg. per cent. Serum albumin was 3.08; globulin, 4.56 grams per cent. The total cholesterol 152 mg. per cent with 64 per cent esters. On protein electrophoresis of the serum the albumin was 28 per cent; alpha₁ globulin, 5 per cent; alpha₂ globulin, 12 per cent; beta globulin, 18 per cent; and gamma globulin, 36 per cent. The C-reactive protein was 4 plus; the anti-streptolysin O titer was 500; mucoprotein, 440; Weltmann, 6; and the latex fixation was positive. An axillary lymph node biopsy was performed, and the lymph node culture was negative for routine fungi and acid-fast bacilli.

Treatment consisted of 18 mg. of nitrogen mustard in divided doses, corticotropin, physical therapy, aspirin, and 250 mg. of chloroquin daily. She was discharged improved and ambulatory.

The second admission was 21 months before last admission. She was readmitted because of an exacerbation of arthralgia and myalgia. The laboratory findings were unchanged since the previous admission except that the VDRL was weakly reactive as was the Kline, but the Kolmer and Kahn tests were nonreactive. The five-hour oral glucose tolerance test gave blood glucose values of 58, 189, 202, 114, and 38 mg. per cent with no glycosuria. She had low-grade, afternoon fever, but was discharged improved following treatment with nitrogen mustard, physical therapy, aspirin, and chloroquin.

Her third admission was 15 months before the last admission because of a painful lump in the left costovertebral region, nocturia, and frequency. She had left costovertebral angle tenderness and muscle spasm. The pH of the urine was 5.5; specific gravity, 1.025; albumin, 2 plus; and sugar, 0.2 per cent. The urine was loaded with pus, pus clumps, and red cells, but a culture was negative. She was treated with sulfisoxazole, nitrofurantoin, nitrogen mustard, physical therapy, aspirin, and chloroquin. She had low-grade afternoon fever, but was again discharged somewhat improved.

The fourth admission was five months before her last admission, and she was complaining of difficulty of breathing, coughing, wheezing, pleuritic chest pain, gagging, difficulty in swallowing of nine weeks' duration, and weakness. She had recently been treated with nystatin for a mouth infection.

Her temperature was 101.2; pulse rate, 84; respiratory rate, 20; weight, 106 pounds; blood pressure, 100/60. There was generalized hyperpigmentation, and the severe arthritic deformities were again noted. She was in obvious respiratory distress with stertorous respiration. The difficulty was chiefly inspiratory, and

was worse in the supine position. Her tongue was enlarged, and her hypopharynx was very narrow. There were superficial ulcers over the lateral aspects of her tongue. The parotid and submaxillary glands were enlarged, but were not tender. Diffuse inspiratory and expiratory wheezing was present. The liver was palpable 4 to 6 cm. below the right costal margin, and the tip of the spleen was palpable. Her soft palate deviated to left, and the gag reflex was absent. There was diminished perception of pin prick in the right lower extremity. The Achilles tendon reflexes were absent bilaterally.

The white blood count was 3,600 with 72 per cent neutrophils and 28 per cent lymphocytes. The hemoglobin was 7.8 grams per cent; hematocrit, 28 ml. per cent. The intermediate PPD and histoplasmin skin tests were negative. There were no cells in the spinal fluid; the colloidal gold curve was 0110000000. The spinal fluid protein was 26 mg. per cent; sugar, 62 mg. per cent; Wassermann, negative. The 24-hour urine steroids after corticotropin stimulation were: 17-hydroxycorticoids, 4.5, and 17-ketosteroids, 3.2 mg. The quantitative urine culture showed greater than 100,000 *E. coli* per ml. Bence-Jones protein was negative. The remainder of the laboratory findings were similar to previous admissions.

She had low-grade fever intermittently. Her urine volume was low the first week, but thereafter was 1,500 to 2,500 ml. daily. She had upper airway obstruction which became almost total in the supine position or when she fell asleep. A tracheotomy was performed with rather marked improvement. She was given one unit of blood. Drug therapy consisted of aspirin, chloroquin, aminophylline, diphenhydramine, diphenylhydantoin, and demethylchlortetracycline. The serum sodium fell to 125 mEq. per liter, with a potassium of 3.5; chloride, 87, and carbon dioxide of 21.8 mEq. per liter. Both flurocortisone and hydrocortisone were given, and the electrolytes returned to normal. A biopsy of an ulcer of the floor of the mouth was performed. She was discharged to a nursing home with prescriptions for hydrocortisone, aspirin, and chloroquin.

Several weeks following her discharge from KUMC the tracheotomy tube was removed and the stoma closed spontaneously.

Final Admission: Shortly before admission she again developed respiratory difficulty. The physical findings were essentially unchanged from her previous admission. Her temperature was 98; pulse rate, 80; blood pressure, 120/80. Airway obstruction was present in the supine position. This was only partially relieved by sitting up. Twelve hours after her admission an episode of airway obstruction occurred. This was relieved by insertion of an oropharyngeal airway, but following this the patient was somewhat

irrational. One hour later a similar episode occurred, and the patient was dead when the physician arrived at her bedside.

Dr. Mahlon Delp (moderator): Are there any questions of Dr. Decker?

Mr. David Schalker (student):* Were skin lesions present at any time during her entire course of illness?

Dr. Donald D. Decker (resident in medicine): They were not seen after her admission here. She did say that several years before admission, I think in 1956, she had had a purplish rash over her abdomen, back, and legs. This was described as lesions varying in size from pinpoint to the size of a quarter, and they were pruritic and scaly. I do not know how long the rash lasted.

Mr. Robert Heide (student): Did she have any sensitivity to sunlight or Raynaud's phenomenon in her past history?

Dr. Decker: I do not know of any Raynaud's phenomenon. On her first admission she did say that she was somewhat sensitive to sunlight. The only comment about this was that the sun hurt her eyes.

Mr. Waymer Strahm (student): Was there xerostomia or xerophthalmia?

Dr. Decker: I do not think so.

Mr. Schalker: Chemosis?

Dr. Decker: No, none described.

Mr. Schalker: Could you describe her therapy with cortisone before admission here?

Dr. Decker: As near as we could tell she was first started on cortisone in 1956, and this, according to her, was one tablet a day. Whether she took it continuously until her admission here I do not know, but I think she probably took it sporadically. As far as I know she never took any high dosages.

Dr. Delp: I think there is one place in the chart that indicates that she might have been taking corticoids at least since 1952.

Mr. Robert Boyer (student): Do we have any evidence of an elevated serum calcium at any time during any of her admissions?

Dr. Decker: No, I think not.

Mr. Strahm: Was a serum iron done?

Dr. Decker: I think not.

Mr. Heide: How about the BUN on the last admission?

Dr. Decker: It was not done. The only laboratory work on her last admission was a chest x-ray and a blood count.

Mr. Schalker: Was she vomiting on her last admission, and could she talk, eat, and take oral fluids?

Dr. Decker: There is a description in the nurses' notes, to the effect that, shortly after admission, she vomited a small amount of orange-tinged fluid on one occasion. Just before that she had eaten some of her evening meal.

Mr. Boyer: Was a Coombs' test done?

Dr. Decker: I do not think so.

Mr. Heide: Did this patient have a history of a craving for salt or of an excess salt intake?

Dr. Decker: I do not think such a history was ever obtained.

Mr. Schalker: Could we have a better description of her substernal pain?

Dr. Decker: These were described as substernal and left-sided chest pain. On one occasion it was described as smothering. It did radiate frequently to the left arm. On one occasion it radiated to the neck. She was seen once in the emergency room with this pain, and an EKG was done. The pain was not particularly related to exercise. Nitroglycerin had been given several times, but no particular immediate relief was obtained.

Mr. Schalker: Did this patient ever take hydralazine?

Dr. Decker: Not to my knowledge.

Mr. Heide: How much involvement of the temporomandibular joint did she have? Did she have fairly good movement of her jaw, or was it somewhat limited?

Dr. Decker: She could open her jaw considerably, but she complained of pain of her temporomandibular joint. There was some tenderness in that area.

Mr. Strahm: What was the report on the lymph node biopsy?

Dr. Decker: It was not diagnostic.

Dr. Delp: Are you surprised that it was not diagnostic? Lymph nodes give pathologists lots of trouble.

Mr. Boyer: Was there a Coombs' test obtained on this patient?

Dr. Decker: I do not think so.

Mr. Boyer: Can you describe this woman's pigmentation, and did it increase throughout her illness?

Dr. Decker: It was a very diffuse pigmentation. It was grayish, rather than brown. I do not know whether it increased as I only saw it once.

Mr. Schalker: Did she ever take arsenic, mercury or silver?

Dr. Decker: Not to my knowledge.

Mr. Heide: Do you know what her pigmentation was when she was 20 years old?

Dr. Decker: No I do not, except she did say when she was first admitted here that her pigmentation had increased in the preceding several years.

Dr. Delp: Do you recall anything about the skin of her hands, Dr. Decker?

* Although a student at the time of the conference in March, 1962, he like the others referred to as students, received the M.D. degree in June, 1962.

Dr. Decker: They were pigmented, and the creases showed an increased pigmentation.

Dr. Delp: I am referring to the texture of the skin on the fingers.

Dr. Decker: I do not recall anything unusual.

Dr. Delp: Well, I do. We used to argue about this almost every morning in making rounds, because I thought the skin was inelastic, tough, and tight; but no one else did. All right, let us see the electrocardiograms.

Electrocardiograms

Mr. Strahm: We have three representative electrocardiograms to present. The first shows a regular sinus rhythm with a rate of approximately 76. The P-R, QRS, and Q-T intervals are within normal limits. There is normal progression of the R waves across the chest leads. There is a nonspecific flattening of the T waves. The next one shows essentially no change. The last electrocardiogram (*Figure 1*) shows a rate of approximately 100 per minute. There

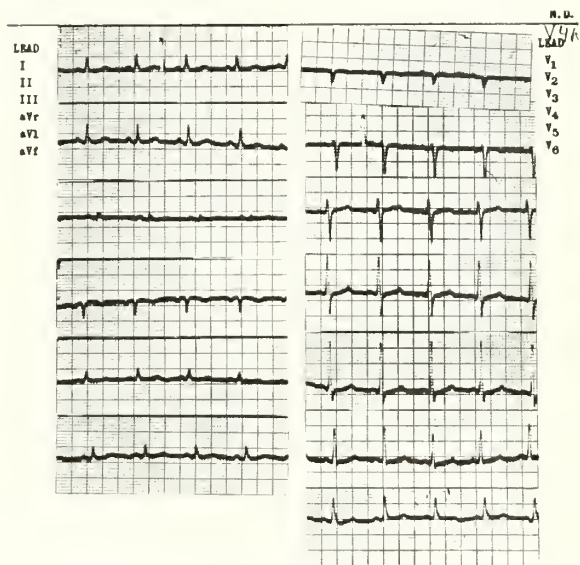


Figure 1. Electrocardiogram made on the patient's fourth admission.

is still a sinus rhythm. The complexes are all within normal limits except that there appear to be some T wave changes across the chest leads. I interpret these as being essentially normal electrocardiograms with nonspecific T wave changes.

Dr. Delp: Dr. Dunn, do you have any comments?

Dr. Marvin Dunn (internist): No, I agree.

Dr. Delp: X-rays?

X-Rays

Mr. Heide: An x-ray of the knee taken on the first admission shows some narrowing of the joint

space with some subendochondral demineralization of the bone. It does not show any severe soft tissue changes or swellings. A chest film taken during the first admission shows some increased fibrosis throughout the lung fields. No bony abnormalities are noted. There is an increased density in the left hilar area. The heart shows a normal contour. There is no blunting of the costophrenic angles. The second chest film shows some increase in the cardiac silhouette. A tracheostomy tube can be seen. The chest film taken on the third admission (*Figure 2*) shows a hilar mass, and there is some clouding of the costophrenic an-



Figure 2. Chest film made on the patient's third admission.

gles. The last film shows a diffuse infiltration in the lung fields, and the cardiac silhouette is larger. This may be right atrial hypertrophy, and the apex of the heart is tilted up in such a way as might indicate right ventricular hypertrophy. There is more blunting of the costophrenic angles. The left hilar mass is still present, and there seems to be increased density of the mediastinal area. A skull film taken on the fourth admission does not demonstrate the sella well, but on the other x-rays we could see it well. I interpret it as a normal sella. In the KUB and intravenous pyelograms taken on the first admission the caliceal patterns appear to be normal. There appears to be no evidence of intrinsic lesions of the bladder. There may be some demineralization of bone in both femoral heads. There is apparent splenomegaly on the x-ray, but no hepatomegaly. In a film that was made on her penultimate admission there is marked hepatomegaly as well as evidence of splenomegaly. There is also evidence of demineralization of bone.

Dr. Delp: Dr. Tice, do you have any comments?

Dr. Galen Tice: We had many films in this case. Those that were not presented showed arthritis in the knees, shoulders, hands, and wrists. One film showed atherosclerosis of the abdominal aorta.

Dr. Delp: Did you have one film that showed changes in the vertebrae, Dr. Tice?

Dr. Tice: Yes, we had a lateral chest film that showed two vertebrae tightly compressed.

Dr. Delp: Boyer will present the differential diagnosis.

Mr. Boyer: The case for presentation is that of a 58-year-old white woman who had chronic polyarthritis that terminated in severe joint deformities associated with myalgia, weakness, weight loss, pleurisy, fever, anemia, hyperpigmentation, hepatomegaly, splenomegaly, lymphadenopathy, subcutaneous nodules, focal neurological findings, positive rheumatoid factor, positive LE cell preparations, positive Kline test, increased sedimentation rate, hypoalbuminemia, hyperglobulinemia, a diabetic glucose tolerance curve, and, finally, a state of debilitation with urinary tract infection, respiratory distress, macroglossia, ulceration of the buccal mucosa and tongue, and nontender enlargement of the salivary glands. Based on these findings we have included five diseases in our differential diagnosis. The presence of fever, anorexia, weight loss, cough, hepatosplenomegaly lymphadenopathy, cranial nerve lesions, and enlargement of the salivary glands encourages a diagnosis of sarcoidosis. Cutaneous nodules closely resembling those of rheumatoid arthritis may be present. Polyarthritis is not a common finding, but has been reported in a significant number of cases. Positive latex fixation tests have also been reported, but this is extremely rare. We feel safe in excluding sarcoidosis on the bases of an atypical clinical course, positive LE cell preparation, normal serum calcium levels, and the infrequency of associated arthritis as a predominant finding which terminates in severe joint deformity.

The second disease, Hodgkin's or any of the related lymphomas, may present with protean manifestations. This may explain her hepatosplenomegaly, lymphadenopathy, fever and other findings, but this is not a typical clinical course for Hodgkin's. The patient was not in an appropriate age group, and Hodgkin's does not explain her arthritis, positive LE preparation, or rheumatoid factor.

The presence of polyarthritis, possible carditis, subcutaneous nodules, myalgia, cervical lymphadenopathy, elevated sedimentation rate, and an elevated ASO titer could perhaps suggest a rather unusual type of rheumatic fever, but there are a number of factors which make this diagnosis most unlikely: incompatible age of our patient, no family history, no history of streptococcal infections, atypical clinical

course, absence of more pronounced cardiac findings (especially a diastolic murmur), presence of splenomegaly, presence of arthritic deformity, temporomandibular joint arthritis, absence of chorea, absence of leukocytosis, presence of hyperglobulinemia, the positive LE cell preparation, and latex fixation.

Rheumatoid arthritis and its so-called variants, with or without secondary amyloidosis, can explain every finding in this case. What rheumatoid arthritis can do, however, disseminated lupus erythematosus can do just as well. In the whole group of collagen diseases in which the clinical and pathological features often overlap, there is often a strong temptation to depend on simple serologic tests for a diagnosis. Yet whether it is justifiable to classify patients as having disseminated lupus erythematosus on the basis of positive LE cell preparation alone, or as having rheumatoid arthritis on the sole basis of the ability to agglutinate latex particles is not at all certain. Any diagnostic interpretation of the test is difficult to make and to support when one is confronted by patients in whom both tests are positive. Do LE cells in patients with clinical rheumatoid arthritis constitute false positive tests, or do these patients have disseminated lupus erythematosus? Similarly confusing are the positive agglutination tests for rheumatoid arthritis in patients who have clinical lupus erythematosus.

The American Arthritis and Rheumatism Association lists 14 clinical and laboratory criteria for the diagnosis of both rheumatoid arthritis and systemic lupus. Our patient had all 14. They are: subcutaneous nodules, hepatosplenomegaly, systolic murmurs, positive LE preparations, positive rheumatoid factor, radiographic evidence of rheumatoid arthritis, renal insufficiency, anemia, hypoalbuminemia, hyperglobulinemia, leukopenia, cephalin flocculation reactions, and false positive serologic tests for syphilis. Our patient had findings compatible with both rheumatoid arthritis and systemic lupus. She may have had either or both. They may be the same disease, and I suspect that Dr. Mantz, when he presents the pathology, will say that the skin was like scleroderma, the muscles were like dermatomyositis, that there were focal areas suggesting polyarteritis, that the patient had fibrinoid degeneration, hematoxylin bodies, and cellular infiltrations suggesting lupus, and that the arthritic deformities were those of rheumatoid arthritis. All this together leads us to one diagnosis, and that is the "One Horse Shay Syndrome" in which a person gets along fairly well until all at once the wheels fall off! There is recent literature which suggests that the LE preparations may be more specific than previously recognized. Some observers feel that the only false positive LE cell preparations occur in

the hydralazine syndrome. I would like to conclude with a poem!

To decide on one diagnosis
Leaves me with a considerable void.
The whole situation is desperate,
For it might be rheumatoid.

But the LE prep is plus
And since this is a CPC,
I'll gird up my sagging truss
And call it systemic LE.

Dr. Delp: Thank you, Boyer. Are there any modifications to this conclusion that Boyer has made? If not, please explain more completely some of the findings that this patient did have. For instance what is your idea about the excessive pigmentation?

Mr. Schalker: Systemic lupus can present with either the discoid lesions or hyperpigmentation, or it may have been just her natural pigmentation.

Mr. Heide: I think she may have been an Addisonian, and the pigmentation might be on this basis.

Mr. Strahm: I think it was evidence of Addison's disease.

Dr. Delp: What about this patient's swollen, enlarged, or hypertrophied tongue?

Mr. Schalker: She had the Mikulicz's syndrome, with the generalized parotitis.

Dr. Delp: Now what did you say? Are you sure that is the syndrome you want?

Mr. Schalker: She might have had Mikulicz's disease or Sjögren's syndrome with the parotid and salivary swelling, but she did not have the lacrimal involvement. She could have the sublingual involvement which could account for the macroglossia.

Mr. Boyer: I think the suggestion which has already been offered is likely. There are reported cases of macroglossia as a result of long-term salicylate therapy. This patient could also have some sort of cellular infiltration which could be produced by the discollagenoses.

Dr. Delp: What about the tight skin that I mentioned, Schalker?

Mr. Schalker: I am not sure of that. As Bob has stated already, it may be that she did have scleroderma.

Dr. Delp: Schalker, this patient had been getting chloroquin for quite some time. Any comments about this?

Mr. Schalker: I do not think that this patient presented any of the complications of chloroquin toxicity. They often have deposits in the lens and the most common symptoms are nausea, vomiting, and anorexia.

Dr. Delp: If this patient really had compression of the vertebrae which Dr. Tice mentioned, but

which we did not see in the films we had, how would you account for this?

Mr. Boyer: I think it is a manifestation of the rheumatoid arthritic disease.

Dr. Delp: Dr. Rankin, may we hear your ideas, please.

Dr. Thomas J. Rankin (internist): I liked that poem very much. Several weeks ago I stood here with the choice between rheumatoid arthritis and lupus. I chose lupus and it turned out to be rheumatoid arthritis. Just to be consistently wrong today I shall choose rheumatoid arthritis. But I do this in order to make a point. I think possibly that, in trying to confine diseases like this within a symptom complex, we are possibly failing to realize that this really does not reward us. The basic difficulty was with her autoimmune responses. She started out with a typical rheumatoid arthritis. Shortly thereafter she acquired both the laboratory work and some of the polysystemic manifestations of lupus. As she got sicker she had a low white count, hepatosplenomegaly, and fever which resembled Felty's syndrome.

In a person sick this long with this generic class of diseases I cannot say that she had no terminal amyloid difficulties. In trying to confine this to a single diagnosis, such a rheumatoid arthritis or lupus or any one of this generic group, we are probably trying to narrow down too thoroughly, and gain nothing thereby. Although, if one makes me confine myself, in this instance, I will say that she had severe rheumatoid arthritis, carried to its ultimate manifestations, and I do this right in the face of the fact that she also acquired a positive VDRL which is almost typical of lupus.

I think possibly going on and off corticoids, even with small doses, contributed to the worsening of her illness. I have no objection to the maintaining of patients on small doses of corticoids, but if it is going to be a matter of having them for a while, I would definitely not like to see them used at all. I believe she had too little corticoid medication, at least from the protocol, to state that she had either iatrogenic hypoadrenalism or iatrogenic osteoporosis. As the students said, osteoporosis is commonly a manifestation of rheumatoid arthritis. The more severe the disease, the more likely the osteoporosis. The tight skin is also often just a manifestation of long-standing rheumatoid disease in the hands with a factor of atrophy and underlying chronic inflammation of collagen tissues. I would add in the discussion of chloroquin that another complication in its use is a fixed drug eruption, which might also have something to do with this patient's problem.

Dr. Delp: Dr. Berry, what are your ideas about this patient?

Dr. Maxwell G. Berry (internist): I have to dis-

agree with Dr. Rankin, and I do this very reluctantly because I have been in the position of disagreeing with him here a number of times, and, as I remember, I am usually wrong. But it seems to me that we do not often see too much overlapping between the various manifestations of collagen disease. I think they are all practically the same type of anti-immune or hyperimmune reaction, but it usually follows a pattern. Of course, it can be changed from one type of so-called collagen disease to another by the administration of corticoids. This can change the pattern of a disease, but this woman did not have enough corticoids to alter her course very much. Keeping in mind the things that are most often specific—the LE prep, and the biologic false positive test for syphilis—lupus is the one diagnosis that explains everything for me.

Dr. Max S. Allen (internist): I think the only safe thing to do is diagnose all of the diseases that have been mentioned as possibilities. Indeed I suspect, as was suggested by the students, elements of all of them will likely be described. There seems to be something about this lady's adrenal failure that perhaps is a little bit peculiar for simple suppressive failure from iatrogenically administered corticoids, and that is the rather marked evidence that occurred at least on one occasion of the lack of salt-retaining hormone. I think this is something that we do not usually see to this degree. I would therefore think of other reasons for the adrenal failure. Finally, I would have to say that there is so much evidence here that I cannot avoid diagnosing lupus. I think that she probably did have amyloid involvement, at least of the adrenals and kidneys, and this might also be the reason for the macroglossia, although primary amyloid disease certainly more commonly produces this kind of change in the tongue than does the secondary type.

Dr. Delp: Dr. Weber, what is your diagnosis?

Dr. Robert W. Weber (internist): I would hesitate to make a diagnosis of primary lupus erythematosus in this patient, possibly because of her age, but I feel that she probably has many of the microscopic changes of lupus. In this age group primary lupus is extremely rare. The changes that this patient had were acute rheumatoid arthritis, initially. She then had prolonged corticosteroid administration, and as a result of this developed a periarteritis, and changes consistent with lupus. I think that any patient over the age of 50 in which you make the diagnosis of lupus have likely received prolonged corticosteroid medication. It is for this reason that I think that the primary disease was rheumatoid arthritis.

Dr. Delp: Dr. Manning, what is your diagnosis?

Dr. Robert T. Manning (internist): I was particularly impressed with her respiratory distress.

While lying down she became extremely dyspneic and cyanotic. It was my impression that this was a simple thing, such as a sort of pseudobulbar palsy, and that she just simply could not keep her tongue out of the way of her laryngeal opening. When she sat up and leaned forward her respiratory distress disappeared. So I thought that she had neurologic manifestations. I think, as Dr. Weber said, she started as rheumatoid arthritis. For one reason or another, perhaps the corticoids, she developed disseminated lupus erythematosus. I think that she also had amyloid disease.

Pathology Report

Dr. Frank A. Mantz (pathologist): As I listened to Mr. Boyer presenting his discussion of this case, I had the unhappy feeling that somebody was looking over my shoulder. My only deviation from his prediction is the fact that there was no convincing evidence of polyarteritis nodosa. Lesions pertinent to the patient's illness were essentially confined to all organs and tissues of the body. Within the skin we saw irregular atrophy, with slight acanthosis of the epidermis (*Figure 3*). There was nearly total atrophy of

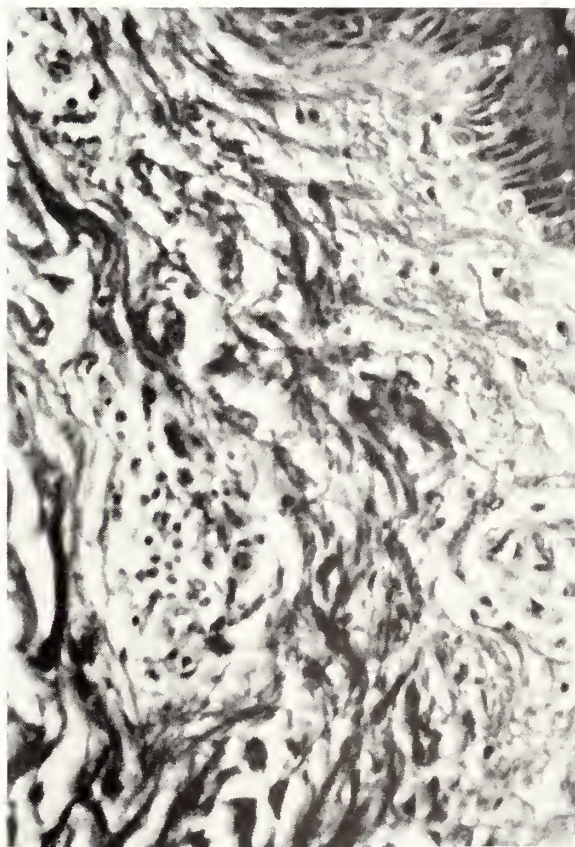


Figure 3. Skin—Atrophy of epidermis and adnexa with fibrosis and vasculitis.

the cutaneous adnexa, and all that was left of a hair follicle was the residual of an erector pilae muscle. Hyperkeratosis, follicular plugging, and vacuolar degeneration of the basal layer of the epidermis combined with the above as features suggestive of lupus erythematosus. Furthermore there were multiple areas of vasculitis characterized by focal edema, swelling of blood vessel walls and a scant infiltrate of chronic, nonspecific nature scattered throughout the corium. Similar alterations were present around blood vessels scattered chiefly throughout the subcutaneous tissues and muscle. There was a particular predilection for involvement of venules—a finding which likewise strongly suggests lupus.

All serosal membranes appeared altered, either grossly or microscopically. There was an obliterative pleuritis with marked edema; the pericardium showed considerable increase in collagen tissue associated with degeneration of a variety which approaches fibrinoid change; and the peritoneum, particularly that part overlying the liver and surrounding the spleen, was the site of rather marked thickening with edema and numerous adhesions. With Glisson's capsule was a considerable infiltrate of chronic inflammatory cells associated with edema and a suggestion of fibrinoid necrosis of collagen.

There was generalized lymphadenopathy, the lymph nodes averaging approximately 2 cm. in diameter. They were fleshy, and contained numerous minute foci of yellow discoloration proving to be hypertrophied follicles. These contained large, prominent germinal centers surrounded by a discrete rim of lymphocytes to produce a target appearance of a type frequently described with the hemolytic anemias. Within the germinal centers were large reticuloendothelial cells showing variable degrees of degeneration; some contained an accumulation of basophilic material suggesting an excessive content of nucleic acid. In some germinal centers there was a deposition of a hyalin substance of a type thought to be associated with hyperglobulinemia and frequently observed in allergic disorders. A few cells within the germinal centers were multinucleated and showed degenerative nuclear alterations suggesting a phase in the development of basophilic bodies. A finding further suggesting lupus erythematosus was that of onion skin proliferation of the penicillary arteries in the spleen (*Figure 4*).

Within both the lymph nodes and spleen were many reticuloendothelial cells showing erythrophagocytosis and suggesting that an element of hemolytic anemia may well have been present. Plasma cells, usually quite numerous in lupus erythematosus, were not particularly conspicuous in this case.

I believe the changes in skin, blood vessels, the reticuloendothelial system, and in the mesothelial membranes were quite consistent with lupus erythem-

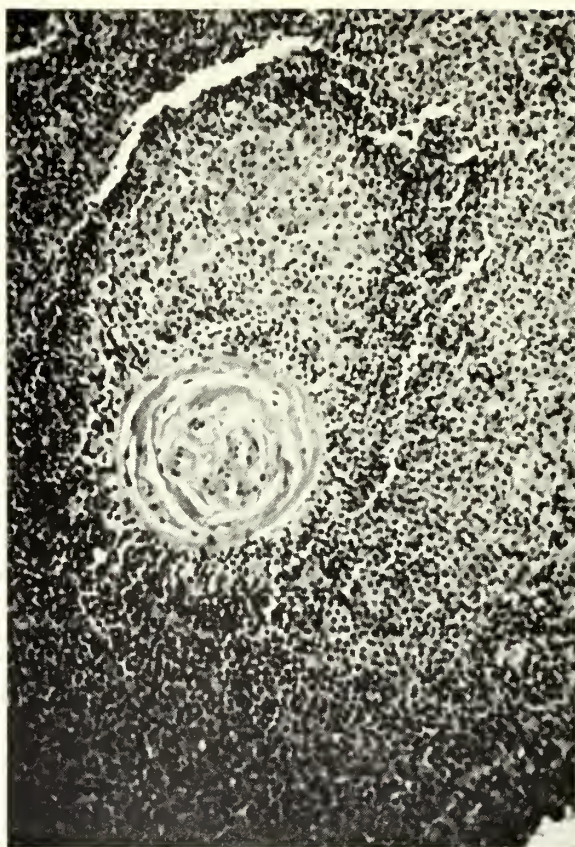


Figure 4. Spleen—Prominent follicle with "onion-skin" vasculitis.

atosus. Let us, however, proceed to a consideration of the synovia.

There were gross alterations of the joints as described in the clinical protocol. The characteristic feature was an extensive hypertrophy of the synovial villi (*Figure 5*) forming large polypoid masses. This was apparently on the basis of a proliferation of synovial cells with amitotic divisions and the formation of large multinucleated giant cells. There was, in addition, metamorphosis of the synovial cells to the extent that they tended to assume an almost columnar epithelial appearance. Occasional foci of fibrinoid necrosis could be found.

An outstanding inflammatory reaction was present within the synovia characterized by the accumulation of lymphoid tissue, sometimes even assuming follicular form. This is a lesion that is almost pathognomonic of rheumatoid arthritis. In addition there was an element of rather severe juxta-articular fibrositis characterized by increased interstitial ground substance, fibroblastic proliferation and the accumulation of chronic inflammatory cells, largely in a perivascular distribution. Rheumatoid nodules were not specifically identified, but one will recall that this patient had received a considerable degree of therapy before

her death. The joint alterations were associated with considerable atrophy of the muscles in the juxta-articular areas and with a moderate degree of peri-articular myositis.

Within the adjacent bone the synovial reaction extended over the surface with some destruction of the articular cartilage. There was rather severe osteoporosis and a few small infarctions were noted on the articular surface. At these sites there was invasion of the substance of the bone by chronic inflammatory tissue. Changes such as these most certainly predispose to vertebral collapse as described clinically. These articular changes I believe to be rather typical of rheumatoid arthritis, and joint lesions of this magnitude are rarely if ever observed in lupus erythematosus.

Another look at the skin and gastrointestinal tract showed additional alterations. The few remaining cutaneous adnexa were bound down within the deep cutaneous fat by accumulations of edematous collagen in which there was some homogenization to create a picture very strongly suggestive of scleroderma. The gastrointestinal tract showed similar alterations suggestive of scleroderma, particularly in the submucosa of the esophagus where there was rather dense sclerosis (*Figure 6*) and degenerative changes strongly sug-

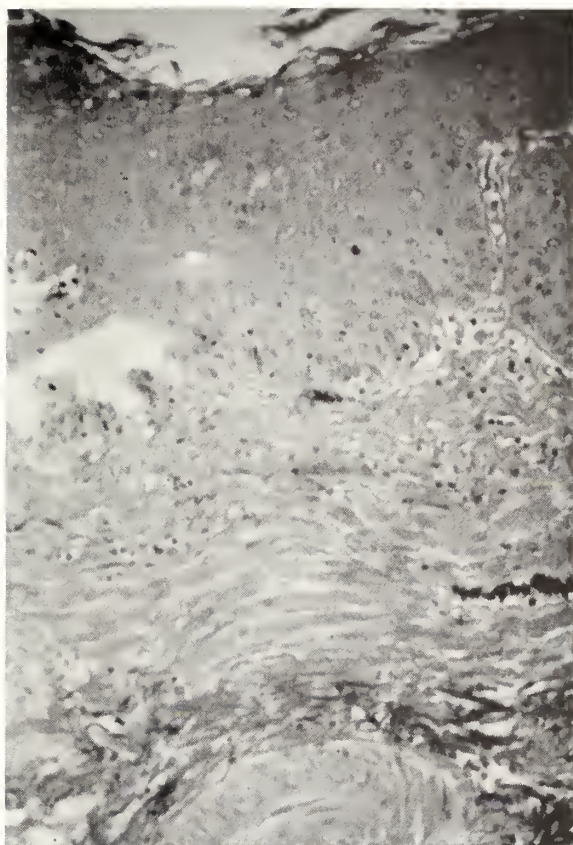


Figure 6. Esophagus—Submucosal fibrosis.

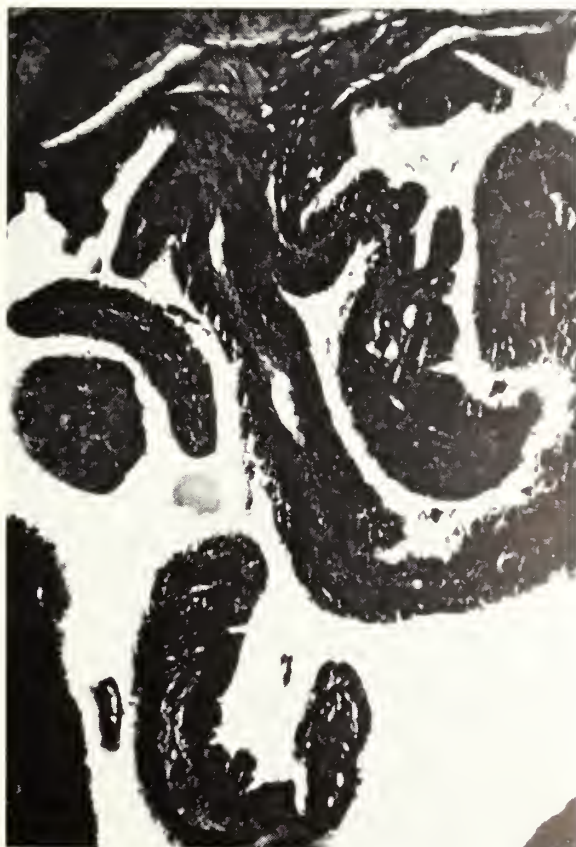


Figure 5. Synovia—Hypertrophied inflamed villi.

gestive of fibrinoid. Although the heart was normal on gross examination the mitral valve showed histologic evidence of invasion by thick-walled blood vessels, a lesion considered relatively specific for rheumatic endocarditis. In addition there was edema with increased interstitial ground substance and degeneration of collagen within the spongiosa of both the mitral and the tricuspid valves. This latter change represents the non-specific lesion of degenerative endocardiosis. A focal area of fibrinoid necrosis on the under side of the mitral valve suggested the early phase of development of the Libman-Sacks' lesion.

At a number of sites, sections of peripheral nerve showed chronic interstitial inflammation similar to that frequently seen in polyarteritis nodosa but lacking the specific vascular lesions.

The kidneys were not remarkable grossly except for hyperemia and edema. They weighed together 360 grams. The glomeruli, however, were massively enlarged, showing a rather remarkable degree of hypercellularity with slight thickening and haziness of the basement membrane insufficient to permit a diagnosis of wire loop change. This might be passed off as an incidental feature except for the fact that within the hilar area of occasional glomeruli we observed the arterioles to be occluded by hyaline thrombi, a lesion

which would pass very well for those observed in thrombotic thrombocytopenic purpura, which, of course, this patient did not have.

To assure you that this was a valid lesion I would point out the fact that occasional glomeruli had undergone partial degeneration with the deposition of scar tissue in an onion skin pattern quite unusual for changes in glomeruli, and very strongly reminiscent of the lesions observed within the spleen.

The submaxillary gland showed interesting abnormalities manifest by focal areas of inflammation, periductal in distribution, and characterized by infiltrations of lymphocytes and large reticuloendothelial cells. This strongly suggested the so-called benign lymphoepithelial lesion which has been associated with Sjögren's disease, as predicted by the students. It has become popular to refer to this as the "sicca syndrome" and its frequent association with rheumatic fever, with dermatomyositis, and with lupus erythematosus is well known.

A surprise lesion was observed within the thyroid (*Figure 7*) where there were multiple small foci of chronic inflammation associated with rather extensive fibrosis and atrophy. Alterations of this type are suspected currently of being on the basis of an auto-

immune phenomenon, and I have no reason to think that this might not apply in this case.

Incidentally, I would point out the fact that there were focal areas of remote necrosis with fibrosis in the pituitary, suggesting possibly a healed vasculitis. In addition, the pituitary showed characteristic alterations of the basophiles consistent with protracted corticoid therapy.

As predicted clinically there was some atrophy of the adrenal cortices, and a lesion that I cannot resist showing: this consisted of focal cytomegalic degeneration. It is a change that recently has been described as a "lesion in search of a disease," long suspected of being of viral nature. My own idea about this is that it is an involutional alteration within isolated cells of the adrenal cortex.

I would relate the immediate cause of the death to the tongue which was massively enlarged, and was associated with profound edema of the pharyngeal and hypopharyngeal mucous membranes, including that of the epiglottis and larynx.

There were multiple ulcerations along the margins of the tongue, apparently the result of trauma and entirely non-specific in their microscopic appearance. Deep within the substance of the tongue, however, and localized chiefly within the most posterior portions there was advanced chronic inflammation (*Figure 8*), predominantly perivascular in its distribution, and associated with a considerable degree of individual muscle cell degeneration. I doubt very much if this woman could spontaneously control the movements of her tongue.

A pathologist is faced with a real problem in attaching a precise label on a case such as this where we have classic changes of lupus erythematosus, changes that are characteristic of rheumatoid arthritis, and alterations strongly suggesting scleroderma. Many of my friends in the audience have expressed themselves in precise diagnostic terms, and I desire to remain on good terms with all of them. In all honesty, however, I must say with the neoreligious fervor of a confirmed coward that I cannot classify this patient's illness more specifically than to call it a diffuse collagen system disorder in which there are manifestations of lupus erythematosus, rheumatoid arthritis, and scleroderma; and in which death was precipitated by marked involvement of the tongue, resulting in ultimate strangulation.

Dr. Delp: Thank you, Dr. Mantz. Are there any questions of Dr. Mantz?

Dr. Weber: Wherein do the valvular lesions of the heart differ, except maybe in intensity, from that seen in about 15 to 20 per cent of people that die with rheumatoid disease?

Dr. Mantz: Not at all. Nor do they differ from the changes observed in approximately 50 per cent of

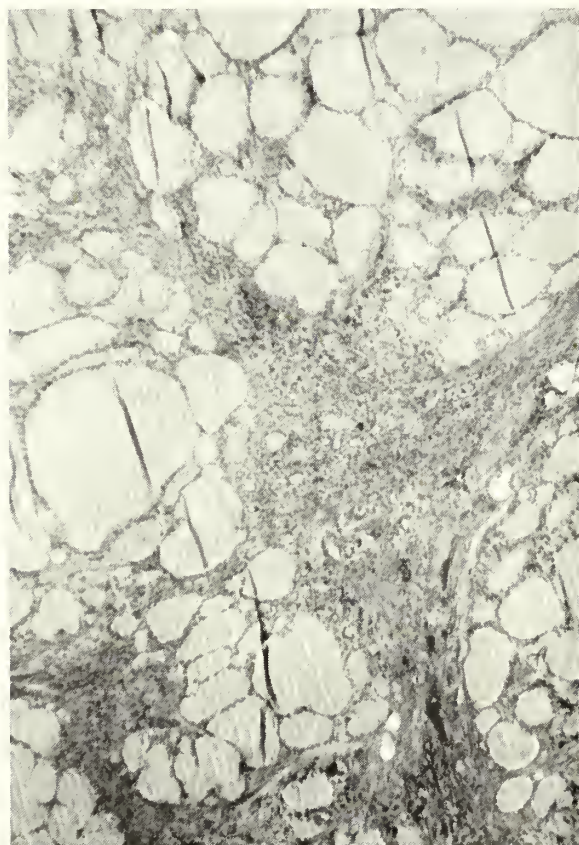


Figure 7. Thyroid—Interstitial thyroiditis.

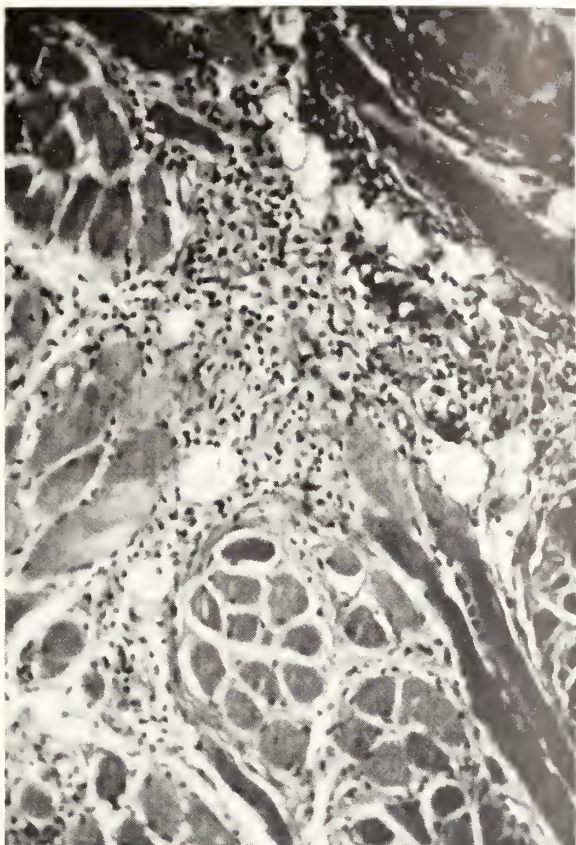


Figure 8. Tongue—Interstitial glossitis.

the very debilitated, aged or very young individuals who die of any wasting disease. These are the changes of so-called degenerative endocardiosis.

Primary Diagnoses

Diffuse collagen system disease with lesions of

A. Disseminated lupus erythematosus manifest by:

1. Epidermal and cutaneous adnexal atrophy with follicular plugging, irregular hyperpigmentation and fibrosis consistent with lupus dermatitis.
2. Lupus vasculitis involving skin, subcutaneous tissues and muscle.
3. Polyserositis involving pleura, pericardium, and peritoneum of liver and spleen.
4. Reticuloendothelial hyperplasia of spleen and lymph nodes with giant cell formation, necrosis and hyalinization of follicles.
5. "Onionskin" arterial lesions of spleen.

B. Rheumatoid arthritis manifest by:

1. Chronic hypertrophic villous synovitis with fibrinoid necrosis, periarticular fibrositis and periarticular myositis.
2. Chronic destructive arthritis with pannus formation, early ankylosis, subarticular osteitis and osteoporosis involving vertebrae, wrists, knees, ankles and digits.

C. Scleroderma manifest by:

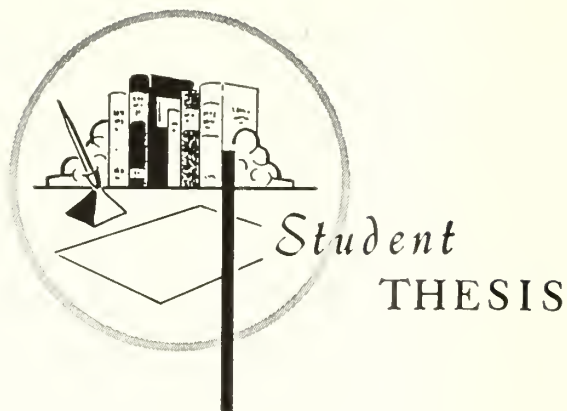
1. Collagen proliferation, degeneration and edema of corium of skin with "binding down" of cutaneous adnexa.
2. Submucosal sclerosis of gastrointestinal tract.

D. Acute and chronic myositis of tongue and hypopharynx with macroglossia, multiple ulcerations of tongue and obstruction of upper respiratory airway.

REFERENCE LISTS

How long should reference lists be? There is rather general agreement that in most of the articles in state journals a list of five or six references will usually be adequate. Except in special review articles, or research articles, complete lists of references are not needed, and, in fact, are out of place. A general guide is to include in a reference list: (1) Only articles which have actually been read in the original (not an abstract or a translation) and (2) Only articles which are actually mentioned in the text of the paper.

How many reference numbers should be in the text? Remembering that they are distracting to the reader as he goes through the article, they should be eliminated if they serve no purpose. If a quoted author appears in the reference list only once, it is obvious that this is the article to which reference is made, and no "superior number" is necessary for it cannot be confused. Papers are written to be read, and it is desirable to keep them interesting and to avoid distractions whenever possible.



Soft Tissue Injuries of the Knee and Results of Treatment

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THE KNEE is uniquely vulnerable to injury. The joint is situated at the center of two, long, bony levers. There is no interlocking mechanism of the femur and tibia to give stability. Virtually the entire support of the joint depends on its soft tissue structures. Muscles and their tendons, the strong iliotibial band, and the intrinsic ligaments are chiefly involved.

Anteriorly, the quadriceps and patellar tendons bridge the joint. The quadriceps are particularly important muscular stabilizers and the clinical significance of this will be emphasized later. The hamstring tendons traverse the joint medially and laterally. The biceps femoris inserts laterally onto the head of the fibula and the tibia, and the semitendinosus and semimembranosus insert medially onto the tibia. On this side also are the insertions of the gracilis and sartorius. Laterally, the heavy, fascial iliotibial band inserts on the tibia. Arising from the condyles of the femur, the gastrocnemius and the tendon of the popliteus muscle insert distally and also contribute stability to the joint. These muscular structures are contractile and the stability they lend the joint is directly proportional to their tonus. It is their nature to give a certain amount when stressed. Therefore, tearing injuries of them are rare.

The ligaments of the joint are not similarly protected. Their collagenous fibers are not capable of withstanding extremes of stretch and are prone to tearing injuries when severely traumatized. The major

ligaments are four in number and are the ones of particular concern when discussing knee injuries.

The tibial collateral ligament (medial collateral) is a broad, flat band situated nearer the back than the front of the medial side of the joint. It is formed by two distinct layers. The superficial layer extends from the medial condyle of the femur well down onto the medial side of the tibia. Its total length is about ten centimeters. The deep layer is shorter and extends from the femoral condyle to the rim of the tibial condyle.

The fibular collateral ligament (lateral collateral) is a narrower, rounded ligament extending from the back part of the lateral femoral condyle to the lateral side of the head of the fibula.

The anterior and posterior cruciate ligaments link the femur and tibia centrally. The anterior cruciate extends from the posterior-medial border of the lateral femoral condyle to the front of the intercondylar eminence of the tibia. The posterior cruciate ligament is somewhat shorter and less oblique. It passes from the posterior intercondylar fossa of the tibia to the lateral and front part of the medial femoral condyle. The names of these ligaments arose from their anatomic relationship which seemed to form an X.

The interior of the knee joint also contains two crescentic cartilages which serve to deepen the surface of the head of the tibia for articulation with the femoral condyles. The peripheral border of each cartilage, or meniscus, is thick and attached to the inside of the capsule of the joint. The inner border of each is thin, concave, and free. Anteriorly, the two cartilages are connected by the transverse ligament. The liga-

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Richard Brandt is now serving internship at St. Luke's Hospital, Kansas City, Missouri.

ment of Wrisberg joins the posterior margin of the lateral meniscus to the medial condyle of the femur.

The menisci have little or nothing to do with the stability of the intact joint. However, they are prone to tearing injuries along with the major ligaments discussed above. Considerable symptomatology results from damage to the cartilages.

Functions of the ligaments and menisci have been the subject of considerable study. Brantigan and Voshell analyzed 100 surgical and autopsied knee specimens in detail. They found both cruciates and both collateral ligaments were taut in full extension of the knee, and that each contributed to the maintenance of lateral stability. In flexion, the fibular collateral ligament and the posterior fibers of the tibial collateral ligament relaxed. Thus the anterior fibers of the tibial collateral ligament and both cruciates maintained lateral stability in this position. A certain amount of adduction instability was normal in flexion.

Forward gliding of the tibia on the femur was prevented by the anterior cruciate ligament and backward gliding by the posterior cruciate. The menisci were considered to function in cushioning hyperextension and hyperflexion.

Abbott and his co-workers reported one major difference among these relationships. They considered the anterior cruciate to be somewhat relaxed in flexion and of less significance in maintaining lateral stability in that position. They have used this as a differentiating sign in diagnosing anterior cruciate and tibial collateral ligament tears.

The ligaments and menisci are the soft tissues most prone to serious damage when the knee is injured. Such trauma is common in football and other competitive athletics. Automobile accidents and falls are other less common modes of injury. Sharp turns, twists, and blows to the lower extremities are inherent in football and may lead to crippling injuries.

Mechanism of Injury

The basic mechanisms involved in all modes of injury are four in number. The most common is abduction, flexion, and internal rotation of the femur on the tibia. A common history for this injury is a lateral, or posterior-lateral, blow to the slightly flexed and firmly planted leg. This tends to separate the medial structures of the knee and results in tears of the tibial collateral ligament, medial meniscus, and anterior cruciate ligament singly or in combination. These structures may tear within their substance or at points of attachment.

An opposite strain of the leg into adduction and external rotation is responsible for tears of the fibular collateral ligament. This injury is much less frequent. The other leg normally affords a kind of protective

cushion to blows which would otherwise strike the medial aspect of the limb.

Hyperextension injuries are occasionally seen and these result in tears of the anterior cruciate ligament. Sagittal displacements sometimes occur, most notably when the flexed knee strikes the dashboard in auto accidents. Posterior displacements of the tibia and tears of the posterior cruciate ligament may follow.

Diagnosing the Injury

The symptoms of ligamentous and cartilaginous injuries are pain, swelling, instability, locking or catching, and a limited range of motion. The latter is commonly an inability to completely extend the knee and results from weakness of the quadriceps. A reflex inhibition of this muscle group appears to follow all acute injuries of the knee. Atrophy soon occurs and considerable wasting will become obvious unless prevented by active quadriceps exercises.

It is most important to gain a careful history of the mechanism of injury if possible. Appropriate suspicions will be aroused by recalling the structures usually damaged by the different mechanisms. The patient should be questioned about the localization of pain and about activities which lead to instability or joint locking. All these historical items assist in pinpointing the lesions. Locking is virtually pathognomonic of tears of the menisci.

If a complete history is obtainable, the performance of a few simple maneuvers during a thorough physical examination should result in accurate diagnoses. Careful palpation of the injured knee will localize tenderness. Tenderness directly over the joint line may point to meniscus damage. Commonly this is found between the patellar tendon and tibial collateral ligament in tears of the medial menisci. Tenderness over one of the ligaments suggests a tear of that structure.

Abduction and adduction stability is tested by anchoring the thigh with one hand and rocking the ankle with the other. The affected limb should always be compared with the normal side. Intense pain or muscle spasm may necessitate examination under anesthesia. Abduction instability indicates a tear of the tibial collateral ligament and perhaps also of the anterior cruciate. Abbott believes the two can be differentiated by testing in both the fully extended and the partially flexed positions. In full extension, he feels abduction instability indicates a tear of the anterior cruciate while instability in flexion indicates a tear of the tibial collateral ligament. Accentuated instability in either position probably points to tears of both ligaments. Adduction instability indicates a tear of the fibular collateral ligament.

Cruciate tears can be demonstrated by the drawer sign. The knee is flexed to 90° and tested for for-

ward and backward gliding, again carefully comparing with the opposite leg. Forward gliding, or the anterior drawer sign, indicates a tear of the anterior cruciate. Backward gliding, or the posterior drawer sign, indicates a tear of the posterior cruciate ligament.

Posterior and other small transverse tears of the menisci may not result in locking. Demonstration of these is facilitated with a maneuver described by McMurray. The leg is fully flexed on the thigh and the posterior portions of the joint space grasped with the thumb and finger of one hand. The ankle is then rotated internally and externally with the other hand while the leg is slowly extended. The elicitation of an audible and palpable click comprises a positive McMurray's sign.

Radiography is essentially the only ancillary technique useful in diagnosing cartilaginous and ligamentous injuries. It is important in ruling out fractures. Also, by taking stress films of both knees any abnormal joint separation may be demonstrated by comparison with the normal side. If lateral damage is suspected, adduction stress should be placed on both knees. Abduction stress is utilized to demonstrate medial tears.

Treatment

Therapy for knee injuries has undergone considerable evolution. Conservative treatment was formerly routine. Joint aspiration, plaster immobilization, and quadriceps exercises were standard procedure. When ambulation was started, a heel wedge was often inserted on the affected side to relieve strain on the healing ligaments. In 1942 Mauck reported some 587 cases treated in such a manner. He used a hinged plaster to facilitate active exercise. A damaged cartilage was never considered an indication for operation by him. Surgical repair was attempted only if severe ligamentous instability was present.

Results of conservative treatment proved unsatisfactory in numerous instances. Gross instability frequently remained. Various reconstructive operations were devised and attempted for these failures. Some proved beneficial, but results were not totally acceptable.

Presently, the efficacy of early operative repair of torn ligaments is being appreciated. Clinical evidence submitted by O'Donoghue supports this. In 1955 he reported 80 cases having good follow-up who had been operated for ligamentous injuries. Of those who were operated in the first two weeks following injury, 71 per cent reported they were having no trouble with their knees. This figure fell to 40 per cent in those operated from two weeks to three months after injury, and to 50 per cent in those operated after three months. Demonstration of clear-

cut ligamentous instability by the maneuvers outlined previously comprises the indication for early operation.

Well controlled experiments in dogs have added objective evidence in support of this practice. Clayton and Weir at Colorado and O'Donoghue and co-workers at Oklahoma independently performed similar and confirmatory studies. They transected knee ligaments of dogs. The healing processes following different forms of treatment were subsequently tested and observed. With simple plaster immobilization the ligaments healed by fibrosis. Few collagenous fibers bridged the gap between the loose ends of ligament. Tests of the tensile strength of these ligaments ended invariably with tears at the point of fibrous scarring. Transected ligaments treated by operative suture of the loose ends healed rapidly by regeneration of well organized collagenous tissue. After six weeks of healing, tests of the tensile strength ended with rupture of these ligaments distant from the site of the suturing.

Injuries confined to the menisci are not immediately operated. Conservative treatment consisting of rest, physical therapy, and quadriceps exercises is recommended. The avascularity of the cartilages makes healing of extensive tears difficult, however. Troublesome symptoms may persist and the patient eventually come to surgery. If so, the operative treatment of choice is total excision of the damaged cartilage. Experience has demonstrated that removal of a meniscus leaves no important deficit.

Study of Cases Treated at K.U.M.C.

All available case records of patients operated for ligamentous and cartilaginous injuries at the University of Kansas Medical Center are included in this study. No cases were knowingly omitted, but the vagaries of record collection undoubtedly resulted in the escape of some. A few records going back as far as ten years were found, but by far the majority are from the past five years. Most of the procedures were performed by staff orthopedic surgeons and the remaining few by orthopedic residents.

Repair of torn ligaments was undertaken as soon as the diagnosis was made. Unfortunately, only 20 of the 38 patients who had torn ligaments repaired were seen within the first month after injury. Many had had unsuccessful trials with conservative treatment before being seen at the medical center. Four of 108 patients had pre-operative diagnoses of ligamentous tears with operative findings confined to cartilaginous damage. Conversely, only three or four cases of ligamentous tears found at operation were not diagnosed pre-operatively. These figures demonstrate the reliability of diagnoses obtainable from a careful history and physical examination.

Although it is not the purpose of this paper to discuss surgical techniques, some clarification of the procedures utilized is in order. Whenever possible, direct suturing of the torn ends of ligaments was performed. If the ligaments were torn from their bed of attachment, the loose end was reapproximated at the same point by suturing through holes drilled in the bone. Both layers of the tibial collateral ligament were explored and sutured independently.

Postoperatively, the knees were routinely immobilized in a bulky Jones's dressing for four or five days. A full length plaster cylinder was then applied and retained for about five weeks. Quadriceps strengthening exercises were encouraged from the beginning of convalescence. At first this consisted of quadriceps setting within the plaster and efforts to lift the extended leg off the bed. Raising the immobilized leg ten times twice a day is considered adequate. When the plaster was removed, isotonic exercises were begun. These are done by suspending weights from the foot while the patient is sitting with feet dangling. The leg is extended against this resistance. Again, repetitiously lifting the weights to full extension ten times twice a day is considered adequate. The weighted load was gradually increased and the exercises continued until thigh measurements were again normal.

Seventy of the 108 cases were operated for torn cartilages. As mentioned before, this operation is not undertaken when the patient is initially seen unless the knee is irreducibly locked. A thorough trial of conservative therapy including active quadriceps exercises is first undertaken. If the patient is still having considerable difficulty following this, and is desirous of operative intervention, total excision of the damaged cartilages is performed. The Jones's dressing is again utilized for several days postoperatively. Active rehabilitation is then begun. Weight bearing is started after the patient is able to extend his leg against a resistance of 10 to 15 pounds.

Chondromalacia of the patellar and articular cartilages was a rather frequent associated finding in this series. This lesion was routinely treated with mechanical debridement and smoothing.

Most authors agree that damage to the medial structures of the knee outnumbers lateral injuries about seven to one. In this study the ratio was 6.3 to one. Nine of the 108 patients had damage to bilateral structures. Four had isolated tears of the cruciate ligaments and 34 had collateral ligament tears. Only nine cases had damage to the posterior cruciate ligament singly or in combination with other tears.

The combination of anterior cruciate, medial collateral ligament, and medial meniscus tears has come to be known as the "unhappy triad." Many have considered this a most common injury, but only nine

cases were seen in this group. A few others had the triad plus additional injuries.

Results of Survey

The 108 patients were divided into three groups based on their age at the time of operation. They were also divided according to whether their injury was athletic or non-athletic. This analysis is summarized below.

MECHANISM OF INJURY

Age	Athletic	Non-Athletic	Total
Under 15	2	1	3
15-25	58	13	71
Over 25	1	30	34
Total	64	44	108

As in other studies, the major cause of knee trauma proved to be athletic competition. Football was by far the leading cause. Other athletic injuries were scattered among basketball, track, baseball, and tennis. The non-athletic injuries resulted from falls, auto accidents, animal kicks, and other miscellaneous causes.

Each of the 108 patients was mailed a questionnaire regarding the current status of the operated knee. Ten letters were returned unclaimed. No current address was available for these. Seventy-one questionnaires were returned completed. The form of the questionnaire is recorded below.

1. Are you having any trouble with the knee that was operated?
2. Is it as good as before the injury?
If not, please elaborate below:
 - (a) Is it painful?
 - (b) Is it unstable?
 - (c) Does it swell?
 - (d) Is motion limited?
 - (e) Does it catch or lock?
 - (f) Is there a grating or popping with motion?
3. Has the injury kept you from returning to athletic competition?
4. In which sports or physical activities are you participating?
5. Have you suffered any reinjury to the knee?
6. Other comment you may have regarding your treatment.

For purposes of comparison, the replies were analyzed in athletic and non-athletic categories. Comparison of the early and late treated ligamentous injuries would have been desirable. Such proved to be invalid however. The cases with ligamentous repair were quite small in number. Also, some of the replies were not fully identified and thus could not always be perfectly matched with the proper records.

Questions one and two were designed to check the reliability of the replies. They are similar enough that their answers should be uniformly favorable or unfavorable for any one patient. As will be noted in the summary of results below, a discrepancy was present in six returns.

Question 1. Are you having any trouble with the knee that was operated?

Athletes Non-Athletes Entire Group

Yes	26	9	35
No	22	14	36
	—	—	—
Total	48	23	71
Per Cent No	46	61	51

Question 2. Is it as good as before the injury?

Athletes Non-Athletes Entire Group

No	31	11	42
Yes	17	12	29
	—	—	—
Total	48	23	71
Per Cent Yes	36	52	41

O'Donoghue, in his similar study, graded each patient who was having trouble with the operated knee. Ten questions regarding specific symptoms and situational difficulties were asked. A score of ten was given each no answer. A score of 100 would mean no difficulty was experienced. In this study, such a grading based on the sub-questions under number two probably would not be valid, as it would be equating isolated meniscus injuries with ligamentous and combined injuries. The sub-questions, then, are valuable chiefly in assessing individual cases.

In contrast to O'Donoghue's survey, it will be noted that the non-athletic group actually reported a higher percentage of favorable results. Superiority of results among athletes in his group was attributed to their greater motivation for quick recovery and more careful attention to rehabilitative measures. Perhaps an explanation for this apparent discrepancy may be found by considering the replies to question three. Only the returns from athletes are included for obvious reasons.

Question 3. Has the injury kept you from returning to athletic competition?

Number Per Cent

Yes	12	25
No	36	75
	—	—
Total	48	100

This return of 75 per cent to active competition is nearly identical to the over-all figure reported by O'Donoghue. It could be reasoned that the athletes, due to more strenuous testing of their knees, en-

countered more difficulties of a relatively minor character. Perhaps the non-athletic group escaped similar symptomatology by avoiding stress beyond the requirements of daily routines.

The fourth question was included to get an idea of the extent to which the knee injury has limited activity. If the patient returned to the major activities in which he previously participated, he was considered fully rehabilitated. Activity was considered limited if the individual had not returned to the competition that caused his injury. Thirty-one of the thirty-six who returned to athletics were considered full participants.

Seven patients reported they had incurred reinjury to the operated knee. The significance of this is questionable, as the nature and extent of the reinjury is unknown.

Under statement six on the questionnaire, many patients expressed general feelings regarding their treatment. None seemed to regret their decision to be operated. Improvement over their pre-operative condition was generally reported. Some admitted that more diligent attention on their part to rehabilitative exercises would likely have resulted in greater improvement.

Summary

The soft tissues of the knee are eminently concerned with joint stability. Muscles and tendons, fascial bands, and ligaments are important. Of these, the ligaments are particularly prone to damage when the knee is injured. The joint also contains semilunar cartilages which are frequently torn at the time of injury.

Knee injuries are a rather common risk to participants in contact sports. Accurate diagnosis of such injuries can be made from the history, physical examination, and radiographs.

Treatment of ligamentous tears is operative repair. For complete recovery, torn cartilages frequently need to be excised. With either injury, the maintenance of good quadriceps muscle strength is important.

One hundred and eight cases of knee injuries treated at the University of Kansas Medical Center are reported. Seventy-one have follow-up information available for analysis. Most of the athletes in this group returned to active competition. A majority of the non-athletes reported trouble-free knees following operation.

The best hope for improved results of treatment would seem to lie in early operative repair of all torn ligaments and in diligent attention to rehabilitative exercises.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

The President's Message

DEAR DOCTOR:

The Kansas Medical Society recommended to the legislature that professional standards be established for the position of coroner and that the office be removed from politics. This was enacted into law and by January, 1965, this Society will be obligated to make it effective.

Each district judge shall receive from the local medical societies within the judicial district the names of at least two physicians licensed to practice medicine and surgery who will accept the office of district coroner upon appointment. Your Society has further obligated the component societies to nominate at least one physician from every political county in this state for appointment to the office of deputy district coroner.

The Committee on Coroners, after many hours of difficult work, has mailed each component society the full details of this program. It now becomes the obligation of us all to cooperate. You will greatly facilitate this effort if you will notify your county society or Dr. J. L. Lattimore at our Society office of your willingness to serve.



Sincerely,

John C. Mitchell, M.D.

President



Editorial COMMENT

Legal Intervention for Medical Care

An interesting question relating to the authority of the courts to require medical care which is not desired by the patient is raised through the United States Court of Appeals for the District of Columbia. This is a three-judge court.

In September a young mother refused upon religious grounds to permit blood transfusions which the medical staff of a hospital in Washington, D. C. determined were necessary to save her life. Her husband also refused to authorize the transfusions. When her condition became critical the attorney for the hospital appealed to the district court for an order which was denied.

The hospital attorney then appealed to the United States Court of Appeals. One of the three judges went to the hospital and reasoned with the patient and her husband. Being unsuccessful in obtaining their consent, he issued an order which he explains in a lengthy document, concluding with the following paragraph:

"The final, and compelling, reason for granting the emergency writ was that a life hung in the balance. There was no time for research and reflection. Death could have mooted the cause in a matter of minutes, if action were not taken to preserve the *status quo*. To refuse to act, only to find later that the law required action, was a risk I was unwilling to accept. I determined to act on the side of life."

The woman recovered, was dismissed from the hospital and in October petitioned the three-judge court to rehear this situation as follows:

"The question is whether a free adult citizen of the United States can be forced against her will to accept medical treatment to which she objects on both religious and medical grounds.

"This case is of vital importance and rehearing

should be granted due to the broad implications of the question presented. The right of free exercise of religion and the right of a free citizen to have his body inviolate are all a part of the rights guaranteed by the Constitution. The problem raised here additionally affects all doctor-patient-hospital relationships throughout the entire country. Thus, while the fact issue may be unusual, the principle is broad and vital and these important qualities make this a case which peculiarly calls for reconsideration by the full Court *en banc* and the right of a rehearing."

The two remaining judges of this court denied the rehearing on the grounds that it was no longer a question before the court, but analyzed the situation and disagreed with the action taken by their third colleague. A portion of this reasoning follows.

"I do not mean to impugn the motives of our colleague who signed these orders. He was impelled, I am sure, by humanitarian impulses and doubtless was himself under considerable strain because of the critical situation in which he had become involved. In the interval of about an hour and twenty minutes between the appearance of the attorneys at his chambers and the signing of the order at the hospital, the judge had no opportunity for research as to the substantive legal problems and procedural questions involved. He should not have been asked to act in these circumstances.

"I suggest it is not correct to suppose that, where there is a serious emergency in life, a judge of a district or a circuit court may act to meet it, regardless of whether he is empowered by law to do so. This situation shows the truth of the adage that hard cases make bad law. . . .

"Confronted by a unique episode such as this, it seems to me we must inquire where an assumption of jurisdiction over such matters could lead us. Physicians, surgeons and hospitals—and others as well—are often confronted with seemingly irreconcilable demands and conflicting pressures. Philosophers and theologians

have pondered these problems and different religious groups have evolved different solutions; the solutions and doctrines of one group are sometimes not acceptable to other groups or sects. Various examples readily come to mind: a crisis in childbirth may require someone to decide whether the life of the mother or the child shall be sacrificed; absent a timely and decisive choice both may die. May the physician or hospital require the courts to decide? A patient may be in a critical condition requiring, in the minds of experts, a certain medical or surgical procedure. If the patient has objections to that treatment based on religious conviction, or if he rejects the medical opinion, are the courts empowered to decide for him?

"Some of our greatest jurists have emphasized the need for judicial awareness of the limits on judicial power which is simply an acknowledgement of human fallibility. Cardozo, in *The Nature of the Judicial Process*, said:

"The judge, even when he is free, is still not wholly free. He is not to innovate at pleasure. He is not a knight-errant, roaming at will in pursuit of his own ideal of beauty or of goodness. He is to draw his inspiration from consecrated principles. He is not to yield to spasmodic sentiment, to vague and unregulated benevolence. He is to exercise a discretion informed by tradition, methodized by analogy, disciplined by system, and subordinated to 'the primordial necessity of order in the social life.' Wide enough in all conscience is the field of discretion that remains."

"It is at the periphery of the boundaries of power where the guidelines are less clear that an appealing claim presents difficult choices, but this is precisely the area in which restraint is called for in light of the absolute nature of our powers and the finality which often, as here, attends our acts. But we should heed Cardozo's counsel of restraint and reconcile ourselves to the idea that there are myriads of problems and troubles which judges are powerless to solve; and this is as it should be. Some matters of essentially private concern and others of enormous public concern, are beyond the reach of judges."

Journal Advertising

Because of some well-founded reasons numerous pharmaceutical houses have curtailed or eliminated their budget for advertising in state medical journals. Revenues to the various state journals in this country, including that of the Kansas Medical Society, have been reduced.

The Kansas Medical Society believes the publication of this JOURNAL is a service to its members. It provides a medium through which information of importance may be disseminated and preserved. It provides to the members of this Society a facility in which they may publish their scientific and profes-

sional experiences. Should this publication cease it would represent a loss to the physicians of this state.

The Society is, therefore, especially grateful to those companies which recognize the value of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY and continue to advertise.

It is the hope of the Editorial Board that physicians will now and during the months that follow take notice of those companies whose messages appear in this JOURNAL. If it is possible to do so, the products advertised in these pages should be given special consideration. Looking at this in one way, the physician can thereby express his gratitude to the advertising corporation and aid in the preservation of the JOURNAL in its present form. Looking at this in another way, the physician who gives consideration to the products advertised is exercising sound professional judgment in behalf of his patient because these companies are not only supporting the efforts of organized medicine, but have a greater than usual concern in manufacturing superior products.

Committee Assignments

Elsewhere in this issue will be found the committee appointments made by John C. Mitchell, M.D., president. Prior to assuming this office Doctor Mitchell asked each member to advise him of any special committee interest he might hold. The response was so great that committee membership has been much expanded over previous years.

This is completely gratifying. Society progress and effectiveness is related directly to committee activity. Almost never has a Society activity been started except through the efforts of a committee. Almost never is a project continued except through committee direction. The surprising interest of the membership in the work of this Society portends an active and productive year.

Physicians in the United States

From the AMA comes some statistics on the number of physicians in the United States. The total number as of December 31, 1963, is 276,477. This is an increase since 1960 of 23,493.

In private practice there were 174,974 at the close of 1963. But, the increase since 1960 is only 6,832.

Not in private practice are 35,156 interns and residents, 13,412 retired and 29,686 who are in research, preventive medicine, administrative positions, and so forth. This totals 78,254. Add to this 21,914 in Federal service, and a total of 100,168 are listed as not in private practice.



Blue Shield

Diversification of Rates and Membership Categories Helps Blue Cross-Blue Shield Better Serve the Public's Needs

W. D. JONES, Topeka

(This is the first in a series of articles by Blue Cross-Blue Shield Division Directors about subjects concerning their Division's activities which are felt to be of general interest to physicians. Mr. Jones is Director of Enrollment for Kansas Blue Cross-Blue Shield.

Subsequent articles by the Directors of Administration and Hospital/Physician Relations as well as one from the Executive Director will appear in later 1964 issues of the JOURNAL.)

There was a time in the history of Blue Cross-Blue Shield when there was but a single program at a single rate. While many of us look back nostalgically on this period, everyone is aware that this has gradually changed until now there are many programs available and many different rating practices employed. These changes have occurred as Blue Cross-Blue Shield has better understood the nature of the population and has been able to gear programs and rates to its various segments.

A specially designed program for college students is a notable example of the development of diversified rates and membership categories to better serve a specific segment of population. A standard Blue Cross-Blue Shield family contract covers children to the 21st birthday. Most family policies from commercial insurance companies cover children to their 19th birthday. This leaves many college students above these ages without coverage unless they purchase an individual or non-group contract. Rates for

such contracts are quite high relative to the low use in the age bracket under which most college students fall. Thus special rates have been developed, rates that are about one-fourth of what is normally charged the non-group individual.

The purpose of this article is to summarize briefly the categories of membership that now exist in Kansas for Blue Cross-Blue Shield and the rating practices that apply to each of these categories.

Employee Groups—from 5 to 50: Here enrollment is of employees and their dependents using the employer as the focal point. To form a group, a certain percentage of the total number of employees must enroll, in this way preserving underwriting soundness. Rates are developed by pooling the experiences of all groups within this category. Thus, utilization of an individual group has no bearing on the rate it pays. Over 40,000 contracts are enrolled in regular employee groups.

Employee Groups—with 50 or more Employees: This is what is referred to as the Merit Rating category. In order to qualify, such groups must achieve a 75 per cent enrollment level. Rates for these groups are influenced by the actual experience of the specific group. The larger the group, the more influence its own experience has on the rate. In addition to using the group's own experience to influence rate, experience is reviewed retrospectively and, in years where it turns out the rate has been more than

necessary, refund of a portion of past dues is possible. Approximately 35,000 contracts are enrolled in merit rating groups. The fact that rates are influenced by experience means that these groups may be paying less than groups of five to fifty or they may be paying rates higher for comparable benefits.

Association Groups: These are groups in which an association has officially agreed to sponsor Blue Cross-Blue Shield for its members and their employees. Approximately 30 associations have agreed to sponsor programs. It is optional with each unit of the association to participate or not, but—to participate—75 per cent of the employees within each unit must enroll. For example, the Kansas Bankers Association sponsors Blue Cross-Blue Shield for its member banks. In order for each bank to participate in the program, 75 per cent of the employees of that bank must enroll. The utilization of benefits by those participating in each association is used to develop the rate for that association. There are two reasons for association enrollment. One, of course, is that prestige of association sponsorship makes enrollment more likely. Second, this makes possible offering group benefits and group rates to employers too small to form their own group; i.e., association members with less than five employees.

A recent development in association enrollment has sponsorship of Blue Cross-Blue Shield by local chambers of commerce for local chamber members who have less than five employees.

Other associations sponsoring Blue Cross-Blue Shield programs are your own—the Kansas Medical Society, the Kansas Bar Association, Kansas State Teachers Association, Kansas State Dental Association, and the League of Kansas Municipalities. Currently there are about 30,000 contracts enrolled in the association program.

Student Groups: The utilization of people at the college student age is probably the most favorable of any age group. This has meant that normal rating practices for employee groups produced rates which have been grossly excessive when related to students. Thus, the development of special rates for students in colleges where Blue Cross-Blue Shield has been sponsored. Currently most of the major colleges in the state, including the University of Kansas and Kansas State University, are sponsoring Blue Cross-Blue Shield for their students. In developing rates of the smaller schools, Blue Cross-Blue Shield pools the experience for these colleges. In this way, they are paying the same rate for their benefits. In a larger college rates are based upon the experience of its own students. Over 11,000 students in the state now participate in these programs.

National Accounts: These are employee groups which have employees in more than one Blue Cross-

Blue Shield Plan area. Different programs and rating practices have been developed co-operatively by Plans in the United States in order that Blue Cross-Blue Shield can be made available to employees in all areas on a uniform rate and benefit basis.

Approximately 22,000 contracts are enrolled in various national account programs. This includes over 10,000 employees of the federal government in the state of Kansas. Other larger national accounts enrolled in Kansas are Southwestern Bell Telephone Company, Harris Publications, and Boogaarts Supply Company.

It should be pointed out that a substantial percentage of the total number of employees in Kansas work for national accounts. In many respects this is the largest unenrolled group market with approximately 70,000 employees currently unenrolled in Blue Cross-Blue Shield. The most likely cause of the large enrollment gain in any period of time, therefore, would be a major break-through in this national account market.

Farm Organizations: In order to achieve sound underwriting and therefore the lowest possible rates for farmers, enrollment has been offered through their county farm organizations. In order for such a group to be formed, percentage requirements must be met. Rates are developed, however, by pooling the experience for all farm organizations. In all parts of the state, the same rate is paid for the same benefits. Approximately 22,000 contracts are enrolled through farm organizations.

Non-Group: While enrollment on a non-group or individual basis is not limited to those people who have no group opportunity, basically this is the purpose of making non-group enrollment available. In order to achieve a sound actuarial base, each applicant is individually underwritten.

This means that each applicant completes a statement of health. Where there is a history of certain health conditions, this statement of health is reviewed by one of the Blue Shield review committees composed of practicing physicians. A review committee may decide that coverage for some conditions should be excluded. In extreme cases the applicant may be rejected entirely.

There are slightly more than 60,000 contracts enrolled on a non-group basis. However, this number is decreasing and hopefully will continue to decrease as we are successfully forming new groups, making group rates available to people who now can enroll only on an individual basis. There are very few people, except the aged, who do not potentially have some group opportunity available to them.

Approximately one-third of the entire population of Kansas is enrolled in Blue Cross-Blue Shield.

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RURAL HEALTH

K. G. Wedel, Minneapolis, Chairman, Minneapolis Clinic; EX 2-2144.

E. D. Bray, Minneapolis; C. E. Brown, Stafford; V. E. Brown, Sabetha; H. D. Doubek, Belleville; F. G. Freeman, Pratt; L. G. Glenn, Protection; W. A. Harms, Hesston; P. H. Hostetter, Manhattan; P. U. Hunsley, Belleville; R. L. Jewell, Bird City; W. J. Justus, Pleasanton; F. Law, Ellinwood; B. N. Lies, Colwich; C. M. Nelson, Oberlin; R. L. Obourn, Eureka; V. Page, Plainville; L. W. Patzkowsky, Kiowa; J. H. A. Peck, St. Francis; D. Petersen, Herington; A. S. Reece, Gardner; H. R. Schmidt, Newton; C. C. Schopf, Clearwater; E. F. Steichen, Lenora; C. R. Svoboda, Chapman; M. H. Waldorf, Jr., Greensburg; R. E. White, Garnett; H. O. Williams, Cheney.

SAFETY

R. C. Polson, Great Bend, Chairman, 1422 Polk; GL 3-8114.

E. G. Anderson, Wichita; P. J. Antrim, Attica; N. C. Bos, Hutchinson; H. L. Bryant, Coffeyville; A. S. J. Clarke, Prairie Village; H. R. Draemel, Salina; A. C. Eitzen, Hillsboro; W. T. Elnen, Wichita; F. A. Gans, Salina; G. L. Gill, Sterling; L. G. Glenn, Protection; J. W. Graves, Wichita; J. A. Grove, Newton; H. P. Jubelt, Manhattan; C. E. Lewis, Kansas City; D. R. Miller, Kansas City; J. H. A. Peck, St. Francis; B. W. Ramsey, Topeka; M. J. Rucker, Sabetha; W. C. Schwartz, Manhattan; H. E. Snyder, Winfield; J. M. Stein, Topeka; R. D. Warren, Hanover.

SCHOOL HEALTH

C. M. Barnes, Seneca, Chairman, 15 S. Fifth; DE 6-2128.

F. R. Applegate, Jr., Goodland; M. D. Athon, Overland Park; M. D. Atwood, Kinsley; W. F. Bernstorf, Winfield; R. D. Boles, Dodge City; V. L. Branson, Lawrence; E. C. Bryan, Erie; R. E. Bula, Hays; W. W. Burney, Wichita; E. J. Chaney, Belleville; A. C. Cherry, Topeka; W. H. Crouch, Topeka; F. A. Dlabal, Wilson; R. S. Freeman, Salina; E. S. Gendel, Topeka; E. D. Greenwood, Topeka; R. H. Greer, Topeka; R. B. Harvey, Wichita; A. J. Horejsi, Ellsworth; H. P. Jubelt, Manhattan; O. W. Longwood, Stafford; H. Lutz,

Augusta; M. L. Masterson, Paola; C. T. McCoy, Hutchinson; W. E. Meyers, Iola; A. C. Mitchell, Lawrence; C. M. Nelson, Oberlin; H. E. O'Donnell, Junction City; V. Page, Plainville; L. M. Pearce, Shawnee Mission; J. E. Randle, Bucklin; L. E. Rook, Kansas City; F. L. Smith, Colby; R. R. Snook, McLouth; R. E. Switzer, Topeka; M. A. Throckmorton, Wichita; C. O. Tompkins, Newton; T. E. Young, Topeka; S. Zweifel, Jr., Kingman.

STATE MEETING FORMAT

G. E. Burket, Jr., Kingman, Chairman, 349 N. Main; KE 2-3171.

Q. C. Huerter, Bethel; L. S. Nelson, Jr., Salina; G. W. Nice, Topeka; J. L. Perkins, Hutchinson; R. K. Purves, Wichita; E. J. Ryan, Emporia; R. Sohlberg, Jr., McPherson.

STORMONT MEDICAL LIBRARY

B. M. Powell, II, Topeka, Chairman, 309 Medical Arts Bldg., West; FL 4-9504.

L. Y. Ch'eng, Topeka; A. C. Cherry, Topeka; R. T. Cotton, Topeka; E. S. Gendel, Topeka; B. H. Hall, Topeka; R. C. Lawson, Topeka; J. D. MacCarthy, Lawrence; B. M. Marshall, Topeka; J. M. Mott, Topeka; C. S. Sherwood, Jr., Topeka; J. E. Sweeney, Topeka; W. A. Warren, Wichita; W. H. Zimmerman, Topeka.

STUDY OF HEART DISEASE

M. Snyder, Salina, Chairman, 105 S. Seventh; TA 7-2222.

W. H. Algie, Kansas City; N. W. Anderson, Topeka; D. R. Bedford, Topeka; M. L. Belot, Lawrence; W. M. Campion, Liberal; R. T. Cotton, Topeka; E. W. Crow, Wichita; A. M. Diehl, Kansas City; H. S. Dreher, Salina; M. I. Dunn, Kansas City; W. R. Durkee, Manhattan; C. W. Erickson, Pittsburg; H. A. Flanders, Hays; J. W. Graves, Wichita; C. T. Hagan, Wichita; C. F. Henderson, Parsons; D. Lawson, Topeka; D. Lukens, Hutchinson; P. W. Morgan, Emporia; W. L. Padgett, Wichita; L. E. Peckenschneider, Halstead; S. C. Petrie, Mission; L. F. Schmaus, Iola; R. Shaw, Hoisington; C. T. Sills, Newton; B. G. Smith, Arkansas City; H. B. Stryker, Jr., Concordia; N. V. Treger, Topeka; F. A. Trump, Ottawa.

VENEREAL DISEASE

C. M. Lessenden, Topeka, Chairman, 2101 W. 10th; CE 4-5533.

V. L. Branson, Lawrence; M. L. Bauman, Wichita; C. C. Brown, Kansas City; W. W. Burney, Wichita; W. J. Cameron, Kansas City; E. S. Gendel, Topeka; A. B. Harrison, Wichita; L. J. Hirsch, Wichita; C. A. Isaac, Newton; W. M. Kane, Jr., Hays; D. A. Lasley, Salina; G. McAfee, Lakin; M. D. McComas, Jr., Concordia; W. Mau, Topeka; C. V. Minnick, Junction City; J. M. Mott, Topeka; J. E. Roderick, Salina; R. Schrepfer, Kansas City; N. G. Walker, Kansas City.

WELFARE

J. C. Mitchell, Salina, Chairman, Box 922; TA 7-3061.

R. G. Ball, Manhattan; Warren Bernstorf, Winfield; H. L. Bogan, Baxter Springs; H. O. Bullock, Independence; G. E. Burket, Jr., Kingman; T. P. Butcher, Emporia; G. L. Campbell, Arkansas City; D. C. Chaffee, Abilene; E. J. Chaney, Belleville; Clair C. Conard, Dodge City; R. M. Daniels, Valley Center; N. L. Francis, Wichita; E. R. Gelvin, Concordia; K. L. Graham, Leavenworth; C. C. Gunter, Quinter; C. T. Hagan, Wichita; R. W. Hughes, Lawrence; G. E. Kassebaum, El Dorado; W. M. Kane, Hays; J. L. Lattimore, Topeka; F. X. Lenski, Iola; R. C. Long, Norton; J. A. McClure, Topeka; D. B. McKee, Pittsburg; D. L. Marchbanks, Salina; Jack Mohler, Abilene; L. S. Morgan, Wichita; L. S. Nelson, Sr., Salina; H. St. Clair O'Donnell, Ellsworth; R. C. Polson, Great Bend; L. R. Pyle, Topeka; W. C. Schwartz, Manhattan; W. A. Smiley, Jr., Goodland; F. L. Smith, Colby; Leland Speer, Kansas City; C. E. Stevenson, Neodesha; T. F. Taylor, Phillipsburg; E. R. Williams, Dodge City.

Blue Shield

(Continued from page 355)

Roughly 15 per cent of the population is what might be classified as unenrollables. This would include people on welfare, the dependents of military personnel who have the Government Medicare Program available to them, military personnel themselves, and permanently institutionalized people. If we were to deduct the unenrollables from the population, then over 40 per cent of what might be called the enrollable population are covered by Blue Cross-Blue Shield benefits.

From studies made, it would appear that 75 to 80 per cent of the total population have some sort of hospital-medical-surgical coverage. This means that those who do not have Blue Cross-Blue Shield probably have some sort of coverage. Therefore, the enrollment job of Blue Cross-Blue Shield is to demonstrate to these people the superiority of our programs over the coverage they now possess. In a sense the evolution from a single program at a single rate to the many programs and many rates of today has put Blue Cross-Blue Shield in the position where this superiority can be demonstrated.

As was mentioned earlier, a major enrollment break-through could be achieved were a larger impact to be made in the national account market. Outside of this market and a few large local employers, the bulk of the potential lies in the small places of employment over the state. We have identified approximately 5,000 places of employment in Kansas which do not presently have Blue Cross-Blue Shield. Our

major enrollment emphasis will be pointed toward these employers in the years to come.

1964-65 Officers

(Continued from page 356)

Kansas Society of Anesthesiology

President—R. H. Robinson, Wichita
Vice President—Van S. Parmley, Wichita
Secretary—Joyce R. Sumner, Hutchinson
Treasurer—Wray Enders, Kansas City
Delegate to ASA—Joyce R. Sumner, Hutchinson
Alternate—W. F. Powers, Wichita

Kansas Society of Pathologists

President—Hans T. Lettner, Hutchinson
President-elect—Gerald K. Palmer, Salina
Secretary-Treasurer—John E. Johnson, Kansas City
Vice President—James Good, Fort Scott

Kansas Society of Medical Technologists

President—Pat Ann Warner, Wichita
President-elect—Mary Ann May, Wichita
Secretary—Kay Gardner, Kansas City
Treasurer—Doris Turgeon, Topeka

Kaw Valley Heart Association

Chairman of Board—Tom J. Daly, Kansas City
President—David G. Laury, M.D., Ottawa
President-elect—Antoni M. Diehl, M.D., Prairie Village
Vice Presidents—Mrs. Howard Crane, Wathena; James P. Kay, Kansas City; Gordon S. Voorhees, M.D., Leavenworth
Secretary—Frank L. Hunn, Atchison
Treasurer—W. C. Hartley, Mission Hills

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Personalities—IN KANSAS MEDICINE

Ministers from ten Kansas counties conferred with staff doctors of the Topeka State Hospital in a day-long workshop held at the hospital in April. Staff members who participated in the program included **Alfred P. Bay**, superintendent, **Charles Chediak**, and **Paul Feldman**.

C. E. Brown, Stafford, attended the Southwest Allergy Clinic held in Hot Springs, Arkansas, in April.

The fifth Educational Workshop held for members of the Kansas Chapter of the American Physical Therapy Association at Wichita included talks by **J. Paul Schweinfurth**, **Anita M. Issac**, **Jerome S. Menaker**, **Frank C. Brosius** and **John G. Shellito**, all of Wichita.

A. C. Eitzen, Hillsboro, and **Ralph Melton**, Marion, were recently elected to the Board of Trustees of the Hertzler Research Foundation.

Frederick P. Wolff, Pratt, attended the meeting of the American Society of Internal Medicine in Atlantic City during April. Dr. Wolff, who is secretary-treasurer of the Kansas Chapter, attended the meeting as a delegate.

A course on the immediate care of the sick and injured was recently held in Salina. **John C. Mitchell** presided during the three-day program designed for ambulance drivers, nurses, law enforcement officers and other personnel involved in emergency care of sick or injured persons. Committee members who selected the instructors for the course were **L. S. Nelson**, **C. E. Scott**, **E. V. Miller** and **H. R. Wagenblast**, all of Salina.

A distinguished alumni award was presented by the Emporia State Teachers College to **Guy E. Finkle**, McPherson, during the annual alumni association meeting in May.

George Burket, Kingman, attended a meeting of the AMA's Commission on Education held in Denver in May.

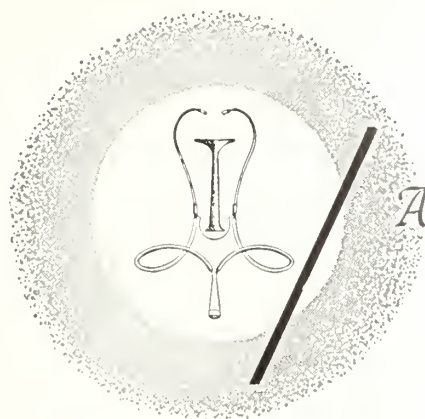
"The Impact of Birth Defects on the Patient, Family, and Society" was the topic of **Herbert C. Miller's** talk at a March of Dimes dinner held in Overland Park last month. Dr. Miller is chairman of the pediatrics department at the University of Kansas Medical Center.

Vernon L. Branson, Lawrence, was recently elected president of the Douglas County Association for Retarded Children.

A new diplomate in the American Board of Obstetrics and Gynecology is **Gordon Maxwell** of Salina. Dr. Maxwell's certification was announced in May.

Francis W. Masters, Kansas City, was among the speakers at the annual meeting of the American Association of Plastic Surgeons held in Chicago in May.

The midwest sectional meeting of the American Association of Medical Clinics was held at the Thompson-Brumm-Knepper Clinic in St. Joseph, Missouri, in May. **Dale U. Loyd**, Wichita, participated in the program and presented the topic "Retirement Plans for Clinics."



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

AUGUST

- Aug. 23-28 American Congress of Physical Medicine and Rehabilitation, Boston. Exec. Dir.: Glenn Gullickson, Jr., M.D., 30 N. Michigan, Chicago.
- Aug. 24-27 American Hospital Association, Chicago. Dir.: Edwin L. Crosby, M.D., 810 N. Lake Shore Dr., Chicago.
- Aug. 25-28 Annual Meeting, American Association of Blood Banks, Washington, D. C. Write: American Assn. of Blood Banks, 30 N. Michigan Ave., Chicago 2.

SEPTEMBER

- Sept. 11-12 Annual West-Northcentral Conference on Diseases Common to Animals and Man, University of Nebr. College of Medicine, Omaha. Write: H. W. McFadden, Jr., M.D., Univ. of Nebr. College of Medicine, 42nd & Dewey Ave., Omaha 5.
- Sept. 17-19 National Cancer Conference, Philadelphia. Write: Coordinator, 5th Nat'l Cancer Conference, American Cancer Society, 521 W. 57th St., New York 19.

OCTOBER

- Oct. 5-9 Annual Clinical Congress, American College of Surgeons, Chicago. Write: S. J. Harbison, M.D., Secretary, 55 E. Erie St., Chicago 11.
- Oct. 11-15 VIII International Congress on Diseases of the Chest, American College of Chest Physicians, Mexico City. Write: Murray Kornfeld, Exec. Dir., 112 E. Chestnut St., Chicago 11.
- Oct. 22-24 District VII, American College of Obstetricians and Gynecologists, Birmingham, Ala. Contact: John B. Nettles, M.D., Dept. of Ob-Gyn, Univ. of Ark. Medical Center, Little Rock.

POSTGRADUATE COURSES

- American College of Chest Physicians.
- July 27-29 *Respiratory Allergy and Immunity*, Chicago.
- Sept. 24-26 *Electrocardiograph in Infants and Children*, Detroit.
- Sept. 28-30 *Environmental Diseases of the Heart and Lungs*, Cleveland.

For more information on above courses, write to the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

University of Colorado postgraduate courses:

- July 6-9 *Ophthalmology*
- July 20-25 *10th Annual General Practice Review*
- July 29-31 *Cardiology*
- Aug. 3-7 *Pediatrics* (Estes Park)
- Aug. 17-21 *Medical Audiology Workshop* (Estes Park)

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver.

- Sept. 15 to June 15, 1965 Nine month tutorial program in Cardiology. Offered by Institute for Cardio-Pulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, Calif. Write: E. Grey Dimond, M.D., at the Scripps Clinic and Research Foundation, La Jolla.
- Oct. 22-24 *Gastroenterology*—American College of Gastroenterology, New York City. Write American College of Gastroenterology, 33 W. 60th St., New York 10023.
- Oct. 3-9 Annual *Otolaryngology* Assembly. Write: Dept. of Otolaryngology, Univ. of Illinois College of Medicine, 1853 W. Polk St., Chicago 60612.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence

Summary of Cases Reported in March 1964 and 1963

Diseases	March			January to March Inclusive		
	1964	1963	5-Year Median 1960-1964	1964	1963	5-Year Median 1960-1964
Amebiasis	1	2	2	2	24	10
Aseptic meningitis	—	—	—	1	—	1
Brucellosis	1	1	1	1	2	6
Cancer	261	316	316	899	887	899
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	1	1	1	11	2	4
Gonorrhea	269	227	205	728	700	682
Hepatitis, infectious	103	23	44	245	64	185
Meningitis, meningococcal	2	1	1	4	1	5
Pertussis	2	—	2	4	21	11
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	—	—	—	2	—	2
Salmonellosis	17	9	4	43	29	15
Scarlet fever	35	25	107	58	170	241
Shigellosis	28	4	4	106	13	30
Streptococcal infections	202	157	195	744	566	566
Syphilis	97	103	105	256	272	319
Tinea capitis	11	6	6	25	24	35
Tuberculosis	22	35	29	59	79	74
Tularemia	1	—	1	3	4	3
Typhoid fever	2	—	—	2	—	1

SULFONAMIDE RESISTANT
MENINGOCOCCI

During the past 18 months, sulfonamide resistant strains of *Neisseria meningitidis* have been noted among military recruits. More recently scattered isolated strains have also been identified in the civilian population. Whether such sulfa resistant strains will continue as the unusual circumstance or whether these strains will progressively predominate is a problem of therapeutic and preventive medical interest. The phenomenon of sulfonamide resistance among strains of *Neisseria meningitidis* was documented in 1962 in an outbreak of meningococcal meningitis at the U. S. Naval Training Center, San Diego, California. During the period January-June, 1963, 33 cases of serious meningococcal infection (meningitis or septicemia), with three deaths, occurred among recruits at the base. Base-wide chemoprophylaxis with sulfadiazine failed to control the outbreak. *In vivo* and *in vitro* studies clearly demonstrated significant sulfonamide resistance among prevailing strains on *N. meningitidis* (Group B). Several other chemo-

prophylactic regimens (including oral penicillin and oxytetracycline) likewise failed to alter the elevated carrier rate significantly, although the clinical cases generally responded well to large parenteral doses of sulfonamide and penicillin. Discontinuing the admission of new recruits for a four-week period appeared to control the outbreak.

Since this outbreak in San Diego, resistant strains have been identified sporadically at other military posts. A small number of sulfonamide resistant meningococci have also been isolated from civilian cases. In some but not all of these cases, it has been possible to demonstrate prior contact with military personnel from affected bases. However, the number of civilian isolates upon which sensitivity studies have been performed is so small as to preclude a definitive statement regarding the possible extent of the problem.

From now until January 1, 1965, we would appreciate receiving isolates of *N. meningitidis* for characterization. Antibiotic sensitivity testing requires the

(Continued on page 370)



Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

- Alexander, Theron. *Psychotherapy in our society*. Prentice-Hall, 1963.
- Anastasi, Anne. *Psychological testing*. 2d ed. Macmillan, 1961.
- Bowers, W. F., Hewlett, T. H., and Thomas, G. T. *Manual of surgical technique*. Thomas, 1963.
- Campbell, W. C. *Operative orthopaedics*, ed. by A. H. Crenshaw. 4th ed. Mosby, 1963. 2v.
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- Clemmesen, S. M. *Some neurophysiological foundations of therapeutic exercises*. Munksgaard, 1963.
- Council for International Organizations of Medical Sciences. *Selective vulnerability of the brain in hypoxaemia; a symposium . . .* Davis, 1963.
- Current practice in orthopaedic surgery*, v.1. Mosby, 1963.
- DeStevens, George. *Diuretics: chemistry and pharmacology*. Academic, 1963.
- Dittrich, F. L. with Extermann, R. C. *Biophysics of the ear*. Thomas, 1963.
- Ford, D. H. *Systems of psychotherapy; a comparative study*. Wiley, 1963.
- Freidson, Eliot, ed. *The hospital in modern society*. Free Press, 1963.
- Gellis, S. S. and Kagan, B. M., eds. *Current pediatric therapy*. Saunders, 1964.
- Greenhill, J. P. *Surgical gynecology, including important obstetric operations*. 3d ed. Year Book, 1963.
- Handbook of physiology*, Section 2, v.2, Circulation. American Physiological Society, 1963.
- Hess, Benno. *Enzymes in blood plasma*. Academic, 1963.
- International Colloquium on Brain Mechanisms*, Pisa, 1961. *Brain mechanisms . . .* Elsevier, 1963.
- King, J. S. and Boyce, W. H. *High molecular weight substances in human urine*. Thomas, 1963.
- Koppányi, Theodore and Karczmar, A. G. *Experimental pharmacodynamics*. 3d ed. Burgess, 1963.
- Lief, H. I., Lief, V. F., and Lief, N. R., eds. *The psychological basis of medical practice*. Hoeber, 1963.
- Mackenzie, Murdo. *Psychologic depression . . .* Churchill, 1963.
- Matthews, W. B. *Practical neurology*. Davis, 1963.
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- Mazia, Daniel and Tyler, Albert, eds. *General physiology of cell specialization*. McGraw-Hill, 1963.
- Montgomery, D. A. D. and Welbourn, R. B. *Clinical endocrinology for surgeons*. Arnold, 1963.
- Mysak, E. D. *Principles of a reflex therapy approach to cerebral palsy*. Columbia Univ., 1963.
- Neurath, Hans, ed. *The proteins: composition, structure and function*. 2d ed. Academic, 1963. v.1.
- Rosar, V. W. *Perthes and parents; the care of your child with Legg-Calvé-Perthes disease*. Thomas, 1963.
- Rosenthal, David, ed. *The Genain quadruplets; a case study and theoretical analysis of heredity and environment in schizophrenia*. Basic Books, 1963.
- Sherman, F. E. *An atlas of congenital heart disease . . .* Lea & Febiger, 1963.
- Sobels, F. H., ed. *Repair from genetic radiation damage and differential radiosensitivity in germ cells; proceedings . . .* Macmillan, 1963.
- Society for Endocrinology. *Hormones and the kidney; proceedings . . .* Academic, 1963. (Memoirs, no. 13)
- Symposium on Aspects of Protein Structure. *Aspects of protein structure; proceedings . . .* Academic, 1963.
- Symposium on Cybernetics of the Nervous System. Amsterdam, 1962. *Nerve, brain, and memory models*. Edited by N. Wiener and J. P. Schädé. Elsevier, 1963.



Book REVIEWS

MODERN CONCEPTS OF HOSPITAL ADMINISTRATION. Edited by Joseph Owen, B.S., M.S., M.D. W. B. Saunders Company, Philadelphia, 1962. 823 pages illustrated. \$16.

A new book published on hospital administration invariably brings the question to mind—"How does it compare with *the* basic book on hospital organization and management by the late Malcolm MacEachern?"

Dr. Harvey Agnew in the foreword to this book answers this question far better than anyone else, so I will use his words—

"This work provides a new and interesting approach to presenting hospital administration concepts. It is not so much an analysis of administrative procedures, department by department, as was done, for instance, in that great book *Hospital Organization and Management* by the late Malcolm T. MacEachern to whose memory this work is dedicated. In keeping with the present day concept of good administration, it is rather a broad study of numerous factors. Many of these are outside of the hospital, but they have a definite influence on its operation. The progressive administrator must be familiar, not only with the best procedures and tools for the discharge of his daily responsibilities within the hospital, but he must have an extensive knowledge of the many factors affecting his environment which materially influence, or could influence, what he and his hospital can undertake.

"The really progressive administrator must be striving constantly to lead his hospital to greater effectiveness and greater achievements. He must give leadership, for he has the greatest opportunity of all those connected with the hospital, including the Board, to learn of new developments, new concepts of the possible role of his hospital."

This is an excellent book. It should be placed on the bookshelf with Dr. MacEachern's pioneering book. Not only should the young graduate in hos-

pital administration search it avidly, but those of us with balding pates, graying and gray hair, should read it to assist us in finding scholarly assistance in our daily problems of hospital administration. Just a partial listing of the table of contents shows its broad sweep: The Hospital's Position in American Society, Community Planning, Financial Management, A Hospital Insurance Program, Admitting, Organizing the Medical Staff, Care of the Mentally Ill, Emergency Service, Long Term Care, and the Relationship of the Administrator in Planning and Construction Teams.

Dr. Owen and Mr. Eisleben, together with a distinguished editorial board, edited the chapters which have been contributed by authors who are known to hospital administrators as among the "Who's Who" of hospital administration. This book proves their right to remain on the list.—L.T.R.

INTERNAL MEDICINE IN WORLD WAR II—INFECTIOUS DISEASES—Volume II. U. S. Army Medical Service, 1963. 649 pages illustrated.

This book, another in the series relating the experiences of the Medical Department of the U. S. Army in World War II, contains clinical descriptions of those infectious diseases which proved to be most important from the military aspect, and were, in at least some instances, less well known to the physicians of our country. It is a good clinical reference source. At least one new disease entity—Ft. Bragg fever—is described, and its etiology conclusively ascribed to *Leptospira autumnalis* by the work of Army Medical Corps personnel.

Chapters are devoted to influenza and other respiratory diseases, sandfly fever, dengue, neurotropic virus diseases, Q fever, scrub typhus (Tsutsugamushi disease), the typhus fevers, rheumatic fever, meningococcal infections, diphtheria (particularly the

cutaneous aspects or tropical ulcers), tuberculosis, venereal diseases, Ft. Bragg fever, and the various aspects of that perennial military hazard, malaria.

Descriptions are excellent, and include historical background, etiology, diagnostic data, epidemiology, and a relation of the clinical experiences during the war, together with the lessons learned from them. Frequently the early experiences were bad, but from them evolved control measures that made this the first war in which fewer of our troops died of disease than from battle injuries and wounds.

The volume will be, as are others of the World War II series, a valuable reference work, particularly for military physicians, but also in civilian practice. The world-wide travel of the day makes some of these diseases seem more important than they did 25 or 30 years ago, when they were rarities in our experiences.—*O.R.C.*

POSTPARTUM PSYCHIATRIC PROBLEMS

by James Alexander Hamilton, Ph.D., M.D.
C. V. Mosby Company, St. Louis, 1962. 156 pages. \$6.85.

Postpartum psychiatric problems provoke understandable concern in the physician whose responsibility it becomes to treat them, because they are so often sudden in their appearance and so unexpected. The appearance of a monograph by James Alexander Hamilton on these problems is therefore timely and welcome.

His discussion of the major syndromes is informative and remarkable for its emphasis on the importance of delirium as a major type (the others being the effective syndromes of mania and depression, and the schizophrenias, or "dissociative syndromes" as he calls them). His emphasis on delirium as a toxic-organic type of disorder is consonant with his view that these syndromes are probably primarily manifestations of disordered chemical and hormonal physiology.

In the course of his presentation, he includes some provocative, though uncontrolled, experimental work of his own on the efficacy of thyroid extract and triiodothyronine in the treatment of postpartum illnesses, especially the deliria and depressions. Such reports, with 33 out of 33 showing improvement, deserve extensive clinical testing to confirm them, for they are remarkable indeed. He acknowledges, however, that even these impressive results do not make thyroid therapy a panacea, nor do they alter the need for additional forms of treatment for these illnesses.

In summary, I would commend this book to any physician, psychiatrist included, who may be called

upon to treat such patients, for the treatment recommendations are sensible, thoughtful and appropriate. In addition, his book lays out a physiological perspective on these problems with intriguing hints about the role of thyroid which well warrant further study. But his book will disappoint any reader who looks for a synthesis of psychological and physiological perspectives to a broader, more comprehensive view of postpartum psychiatric illness.—*R.H.M.*

GASTROENTEROLOGY by Henry L. Bockus, 2nd Edition. W. B. Saunders Company, Philadelphia, 1963. 958 pages illustrated. \$25.

This book is the much awaited Volume 1 of the 2nd edition edited by Dr. Bockus. It represents the cumulative efforts and experience of Dr. Bockus and his associates in the department of Gastroenterology at the University of Pennsylvania Graduate School of Medicine. This volume is an encyclopedia reference work on the diseases of the esophagus and stomach and the publisher's advertising term "monumental" is correct. Dr. Bockus' careful editing is evident throughout and the proofreading and index were done by experts.

I tried to find some item of esophageal-gastric disease in my clinical experience that was not adequately presented and I finally had to settle for the premise that the psychosomatic aspects of esophageal-gastric disease were weakly handled.

A brief review of a reference tome of this kind is impossible but to this reviewer the following subjects were presented exceptionally well:

The use of indications for gastroscopy and exfoliative cytology in gastric diagnosis. Curiously, little was said regarding the new flexible fibroscope. It is now possible according to the authors, to make an accurate diagnosis in 95 per cent of patients with gastric malignancy by using the traditional and modern adjunct preoperative diagnostic procedures.

Dr. Harry Shay presents a thorough discussion on the most recent concepts concerning the etiology and pathology of gastric and duodenal ulcers. Valuable information is presented in the discussion on iatrogenic peptic ulcer and the injury provoked by drugs like phenylbutazone, aspirin, reserpine and corticosteroids. As in the previous edition the medical therapy for management of uncomplicated peptic ulcer is presented in a thorough and common sense manner. The chapters dealing with the complications of peptic ulcer disease alone are worth the price of the book. For instance, the criteria for non-operative treatment of perforation by aspiration are succinctly stated. The controversial issues related to

the best surgical procedure to use for intractable ulcer disease is thoroughly ventilated by Dr. Roth. This boils down to the principles that the "appropriate" operation is selected on the basis of (1) risk; (2) the preoperative secretory capacity of free acid; (3) the attitude and temperament of the patient (direct relation to incidence of dumping syndrome); (4) the nutritional state; (5) the location of the ulcer; (6) the surgical, anatomic and pathological conditions encountered on the operating table.

Similarly, the guidance and advice provided in the chapters on the differential diagnosis and management of hematemesis and melena are extremely helpful when the harried physician wants the specific chapter and verse that will help him in his dilemma.

These are only a few of the subjects; space and time are not available to discuss the fine clinical presentation on the symptomatology and physical examination of the patient with suspected esophageal-gastric disease. Or, the interesting chapter at the end devoted to anomalies of the stomach or, the discussion on acute dilatation and rupture of the stomach.

Anyway, it is a good book and should be placed on the shelf with your other medical bibles and the IRS states the price is deductible.—C.J.W.

Morbidity Incidence Report

(Continued from page 366)

use of agar plates into which antibiotic has been incorporated. The disc method is not satisfactory. If antibiotic sensitivity testing has been carried out, we would appreciate your informing us of your results. At present we have no evidence that this strain is a hazard to our population. However, we are asking cooperation for our surveillance and laboratory programs so that we can be certain. If the strain

becomes widespread, preventive and treatment regimens will have to be modified.

It has long been the practice of laboratories throughout the state to send sub-cultures to the Kansas State Department of Health to allow confirmation and other studies. We urge that this practice be continued.—(Abstracted from: Report of Communicable Disease Center, U. S. Public Health Service)

S.S. HOPE

The teaching-training hospital ship *S.S. HOPE* will begin its first medical mission to the continent of Africa on October 15 when it arrives in Conakry, Guinea to begin a ten-month visit there, Dr. William B. Walsh, president and founder of Project HOPE, announced April 23, 1964 in Washington, D. C.

The *HOPE* has previously been to Indonesia, South Viet Nam and Peru and is currently in Guayaquil, Ecuador.

The floating medical center will conclude its 40-week stay in Guayaquil on September 6 and will head for Galveston, Texas where the vessel will undergo minor repairs between the 14th and 29th of September. During that time, a new permanent staff of medical personnel will report aboard and will remain attached to the ship for the duration of the Guinean voyage, expected to last until the fall of 1965.

The *S.S. HOPE* has been in Guayaquil since December of last year where her "crew" of physicians, dentists, nurses and paramedical personnel has been carrying out a training program among their local counterparts.

In Washington, Dr. Walsh said:

"We are looking forward to our first visit to the African continent and the opportunity to work with President Toure and the medical personnel of his country. We have all but completed our selection of the medical staff for this particular mission and we sincerely hope that we may fulfill the trust that has been placed in Project HOPE by the Guinean government, medical profession and the people."

More than 600 members of the American medical profession have served abroad the *S.S. HOPE*, a former U. S. Navy hospital ship. By the time the ship concludes its visit to Ecuador they will have trained nearly 3,000 medical personnel in the nations visited by the ship, performed over 5,000 major operations and examined and immunized nearly three-quarters of a million people.

Project HOPE is an independent, non-profit organization formed in 1958 to bring medical teaching and knowledge to the people of newly-emerging nations.

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JAMES W. CHENEY, M.D.

James W. Cheney, 89, retired Wichita physician, died June 12, 1964, after a brief illness.

Dr. Cheney was born December 12, 1874, in Christian County, Illinois, and came to Kansas in 1877 with his parents who homesteaded near McPherson. He attended McPherson College for two years and graduated from Kansas City Medical College in 1898. He began his practice in Kingman, leaving there in 1910 to study the treatment of eye, ear, nose and throat diseases in Vienna, Austria. Returning from Vienna, he moved to Wichita and practiced there until his retirement in 1961.

He was a member of various civic and medical organizations and served as honorary director of the Kansas Children's League since 1911.

Survivors include a son and two grandchildren.

JAMES D. COLT, JR., M.D.

James D. Colt, Jr., Manhattan, died on June 18, 1964, at St. Mary's Hospital in Manhattan. He was 69 years old.

Born August 31, 1894, at Riley, Kansas, Dr. Colt began the practice of general surgery in Manhattan in 1921 in association with his father. He was graduated with a Bachelor of Science degree from Kansas State University in 1915 and after serving in the Navy during World War I, he received his Medical degree from the University of Kansas in 1919.

Dr. Colt served as an examiner of the Kansas State Board of Medical Registration and Examination and was president of the board in 1950. He was active in community and professional associations and at the time of his death was president of the Memorial Hospital staff and past president of the St. Mary Hospital staff.

He is survived by his widow and two sons.

OTTO J. HARTIG, M.D.

Otto J. Hartig, 63, Downs, died May 30, 1964, at the Osborne Memorial Hospital, Osborne, Kansas. He had been a resident of Downs since 1932.

Dr. Hartig was born on February 20, 1901, at Lawrence, and graduated from the University of Kansas School of Medicine in 1931. After completing his internship at St. Margaret's Hospital in Kansas City, he entered general practice in Downs. In 1937 he served a fellowship in surgery at Tulane University Hospital in New Orleans, following which he completed a residency in surgery at Elkins, West Virginia. In 1942, Dr. Hartig was chief resident in surgery at General Hospital, Kansas City. He was medical director and completed additional surgical training at Hillcrest Medical Center in Tulsa in 1943. At the time of his death he was a member of the staff of Beloit Community Hospital and Osborne Memorial Hospital.

Surviving Dr. Hartig, in addition to his wife and son, are his mother, sister and two brothers.

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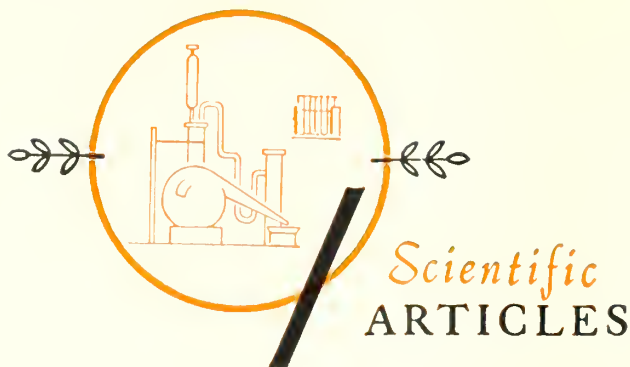
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American College of Surgeons

Kansas Chapter

This issue is devoted to the papers presented at the meeting of the Kansas Chapter of the American College of Surgeons, held October 6, 1963, at Halstead.

The Editorial Board hopes it will be as useful and interesting as the companion issues of the American College of Physicians' group and other special issues—and that it, too, may become an annual feature.



Angiography

The Use of Serial Angiography in the Diagnosis and Treatment of Head Injury

ROBERT L. BELL, M.D., *Wadsworth**

IN 1927, MONIZ INTRODUCED cerebral arteriography as an aid in the diagnosis of cerebral tumors. His first contrast medium was a 70 per cent solution of strontium bromide which was supplanted by a 25 per cent solution of sodium iodide. The same author advised the use of colloidal thorium dioxide, commonly known as "Thorotrast." This material had the advantage of producing films of high contrast, but the distinct disadvantages of localizing itself in the liver and delivering a dosage of alpha radiation which has been implicated as a carcinogenic factor. In 1939,² diodrast (Iodopyracet) was introduced. It was found to have adequate contrast for cerebral angiography, but produced considerable angiospasm and injection was associated with numbers of severe systemic reactions. The latest material introduced about 1955 was diatrizoate (Hypaque) sodium. This material in 50 per cent concentration gave a superior contrast in the angiogram and was accompanied by reaction in only one out of 250 instances of cerebral angiography.

While the contrast medium was perfected, others such as Sanchez devised rapid serial film changers to delineate various phases of the angiogram. This

Serial angiography makes possible a precise diagnosis of the presence or absence of mass-occupying lesions following head injury.

work was catalyzed by the demand for high speed changers to be used in cardiovascular work so that another changer, the Schönander, was produced. *Figure 1* shows the instrument which we have used to produce the films with as little as 8-10 cc. of Hypaque. More recently it has been possible to take continuous cine films of the cerebral circulation with image intensification techniques. This particular technique has not become generally available.

Technique

The patient may be sedated, after which the head is placed in and secured on the changer. If the patient is uncooperative, it may be necessary to perform the test under general endotracheal anesthesia. A needle is introduced in the common carotid artery, connected to a venotube and syringe filled with Hypaque. As the syringe is emptied and approaches the last 5 cc., a signal is given to activate the changer and exposures are made automatically. The machine completes a run of one and one-half films per sec-

* Section of Neurosurgery, US VA Hospital, Wadsworth, Kansas, presented at the sectional meeting of the American College of Surgeons, Kansas Chapter, Halstead, October 6, 1963.



Figure 1. Position of the patient on automatic changer for cerebral arteriogram.

ond. After 12 films have been exposed simultaneously in the lateral and anteroposterior projection, they are processed automatically. If satisfactory, the examination is terminated; otherwise, further examinations are carried out on the other carotid artery or the vertebral system.

Angiography can be readily applied to cases of intracranial trauma. If a seriograph is available, a complete examination can be performed in 20-30 minutes—often the time required for the setting up of a modest operating room. The anteroposterior view is the most diagnostic (Figure 2). In this view, one sees displacement of the anterior cerebral artery and a clear space between the skull and cerebral cortex. Even more evidence is apparent five seconds later (Figure 3) when one notes in the venous phase there is an area with absence of vessels between the skull and cortex which lies in a more posterior location. The chart, obtained from Carton (Figure 4), shows the necessity of positioning the head properly to throw the subdural area into bold relief. This is quite necessary if single or limited series techniques are used. It is possible to miss posteriorly placed hema-

toma unless one is careful to procure films in the late venous phases. Oftentimes the venous phase films are more dramatic proof of the presence of subdural hematoma than the arterial.

There are those that believe a differential diagnosis between epidural hematoma and subdural hematoma can be made by angiography. Figure 5 is an anterior-posterior angiogram of a proven epidural hematoma. Some have noted the presence of beads of opaque medium along the course of the middle meningeal artery on extravasation into the epidural space. Others refer to the superiorly placed mass in an early phase of the disease. We have not used these points as diagnostic criteria. There is no shift of the anterior cerebral artery. Without an adequate history or operative proof, we would not hazard a diagnosis of epidural hematoma or subdural hematoma. After injection of the opposite system, it is apparent why there is no shift in the system (Figure 6). This film shows elevation of the left middle cerebral artery and in the left lateral view there is a confirmation of this finding (Figure 7). At operation, a right epidural



Figure 2. Anteroposterior view. An area free of vasculature between the internal table of the skull and cortex is readily visualized.



Figure 3. A later venous phase shows the limits of the subdural hematoma in greater detail.

hematoma was evacuated and later a left temporal lobe hematoma was evacuated through a burr hole.

Another etiology is possible for subdural hematoma. *Figure 8* is a lateral angiogram and shows an aneurysm in the region of the trifurcation of the internal carotid artery. In the anteroposterior angiogram (*Figure 9*), one is impressed by the typical picture of a space occupying mass external to the cortex. This proved to be a subdural hematoma which was evacuated. After a suitable time interval, the aneurysm was approached and ligated.

Discussion

All surgeons have been confronted with the diagnosis and treatment of cranial trauma possibly accompanied by signs of an expanding intracranial mass. We have all been taught to use the pupil as a localizing sign to find the site of the lesion and at times have been surprised that the hematoma is found on the opposite side. Likewise hemiparesis may or may not be present on the side of the clot. Many in the past have resorted to diagnostic techniques after the patient has reached the operating room, including the use of multiple burr holes or resorting to the use of

→
Figure 4 (Top). Oblique, or tangential views used in locating site of subdural hematoma. The (A) AP, (B) right oblique, or (C) left oblique views will readily show the lesions. In these views the projection of the hematoma will be clearest and the cortical vessels maximally displaced. If the AP view is used to delineate a frontal or occipital hematoma there will be no visible displacement of cortical vessels from the skull. The lateral view (D) does not usually show hematoma unless as in (E) the head is rotated to marked degree.

FROM: *Cerebral Angiography in the Management of Head Trauma* by Charles A. Carton, 1959. By permission of the publisher Charles C Thomas, Springfield, Illinois.

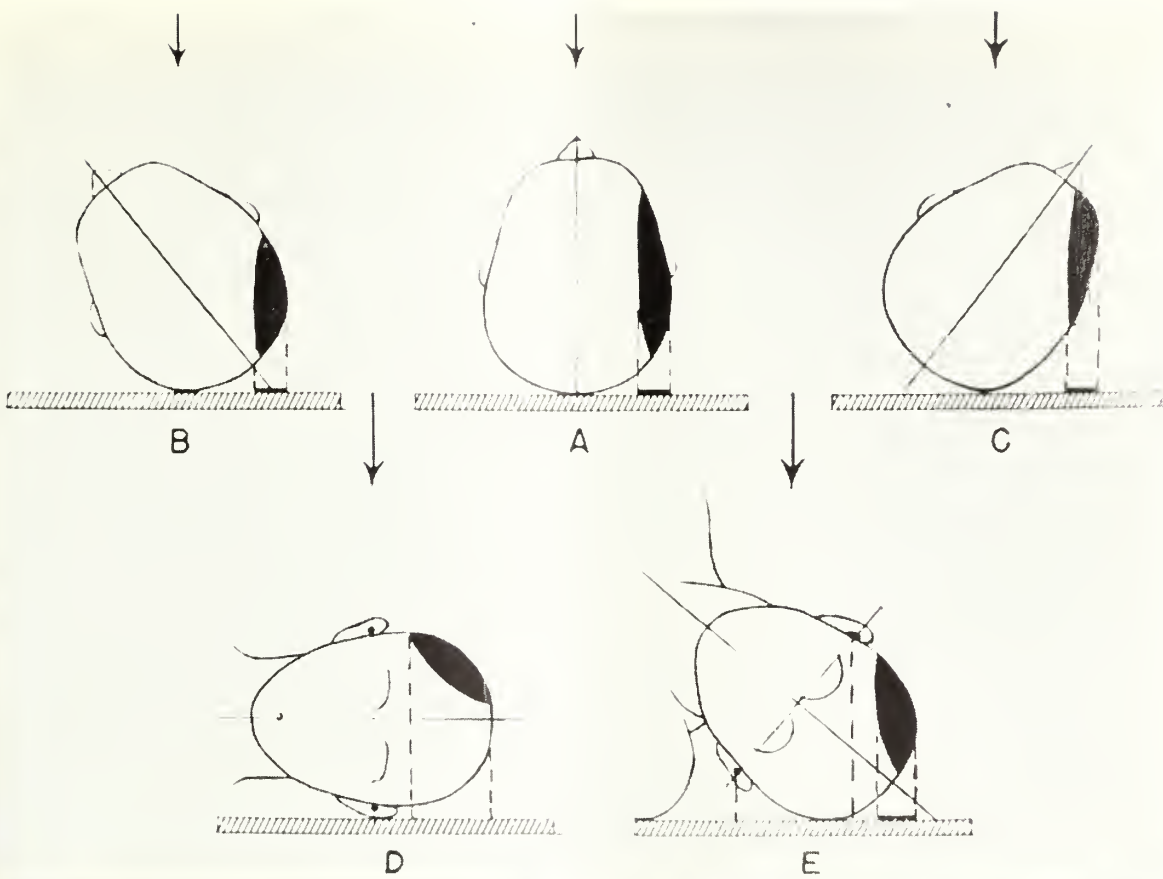
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Figure 5 (Bottom left). A right carotid angiogram showing a large superiorly placed mass without evidence of shift in the anterior cerebral artery.

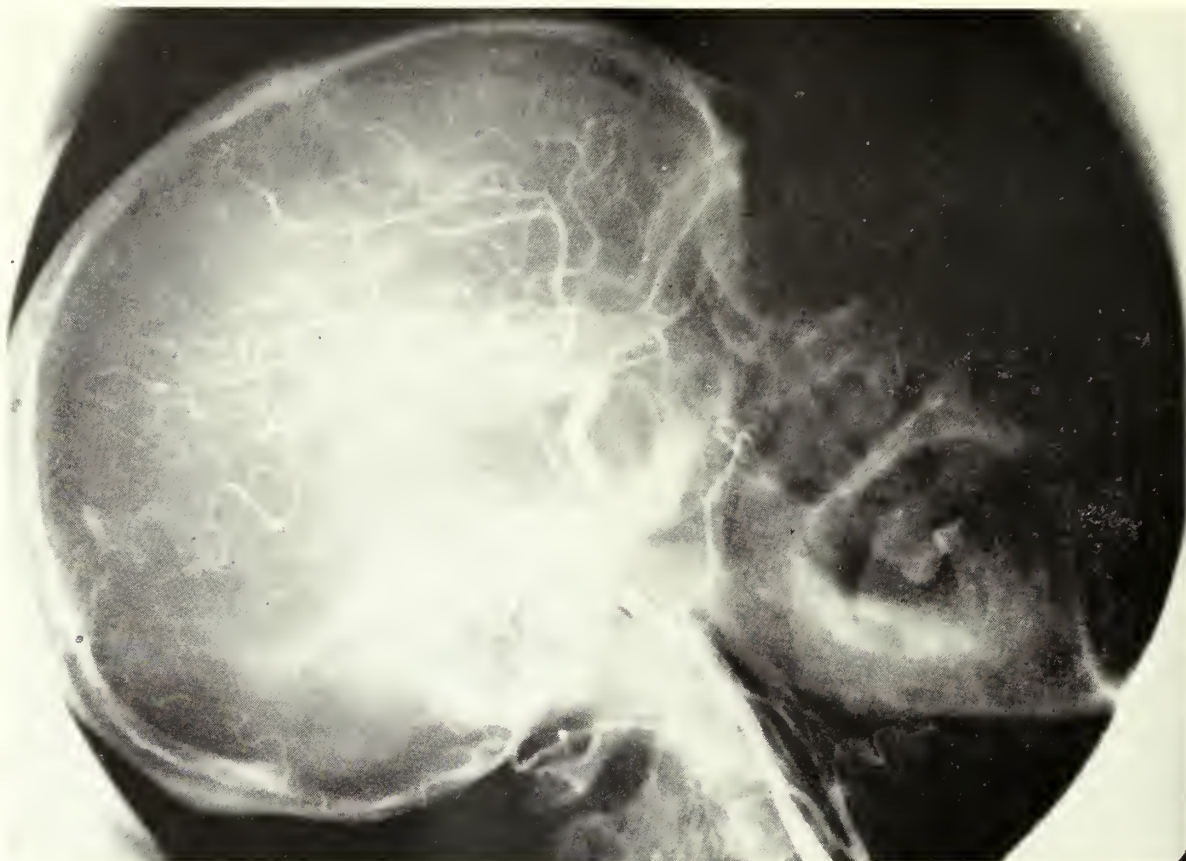
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Figure 6 (Bottom right). Same patient as in previous figure, but injection is now on the left. There is elevation of the left middle cerebral artery.

ventriculography in a desperate attempt to localize a clot. Using these techniques, and because of improper placement of the burr holes, epidural hematomas have been missed by millimeters and subdural hematomas missed because of their elusive position inferior to the temporal lobes. This of course can be eliminated by the use of serial angiography and establishment of the precise location of the lesion prior to operation.

We are of the opinion that older hand-changing techniques have become obsolete. There is no need, with a single automatic technique, to resort to prolonged repeat examinations and larger amounts of opaque medicine. Occasionally with the older methods, unless the head was placed properly, there was a possibility of improper localization of the lesion. If all phases were not present, a posteriorly placed hematoma could be missed. The posteriorly placed hematomas are frequently observed better in the later venous phases.

Finally, because we are rapidly entering a phase where we are all desirous of observing dynamic changes, we are more interested in multiple pictures of the circulation. In this way, we are better able to evaluate collateral circulation, alterations of flow, and as noted in the case of the subdural hematoma in the presence of aneurysm, a better treatment of the basic lesion. In the future, an image intensifier with cine recording should be able to view this dynamic flow in a continuous pattern and possibly give greater information relative to flow.





ANGINA STUDY

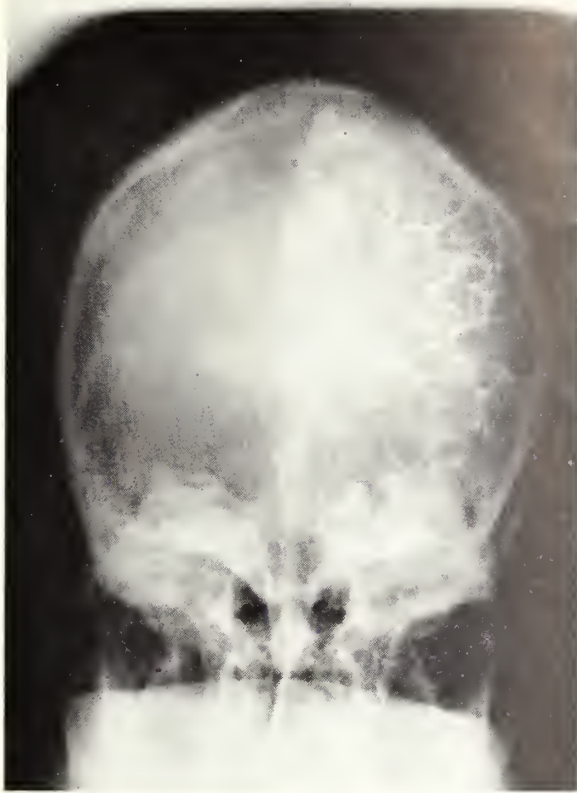


Figure 9. An anteroposterior view. The aneurysm is visible. There is an avascular area between the inner table of the skull and the vessels of the cortex indicating a subdural hematoma.

Summary

We have, through serial angiography, been able to precisely determine the presence or absence of mass lesions, plan an attack on the lesion, and uncover oftentimes a more fundamental etiology other than trauma.

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2. Gross, S. W.: Cerebral arteriography in the dog and in man with a rapidly excreted organic iodide. *Proc. Soc. Exper. & Med.*, 42:258-259, 1939.

← Figure 7 (Top). Lateral view of Figure 6 showing elevation of the middle cerebral artery indicating a space occupying mass.

← Figure 8 (Bottom). Lateral view of an angiogram showing a multiple lobe aneurysm at the junction of the internal carotid and posterior communicating arteries.

Cardiac pain that occurs when a patient is lying down (angina decubitus) usually indicates a more severe and advanced form of coronary heart disease, reports Dr. Arthur H. Griep of Evansville, Indiana.

Analyzing his experience with 400 angina pectoris patients over a four-year period, he found a mortality rate of 37 per cent among those patients with nocturnal angina, as compared with seven per cent among those who had daytime exertional angina. Most patients with nocturnal angina also had effort angina during the day.

The physiologic alterations that occur in the circulatory system when the patient with ischemic heart disease is recumbent can cause nocturnal angina pectoris. Unpleasant, vigorous dreams, increased cardiac work and eating shortly before retiring are contributory factors. Angina pectoris also can be caused by mobilization of fluid from otherwise occult (not evident) congestive heart failure (occurring several hours after recumbency). Upper abdominal disorders aggravated by recumbency, such as gastric dilation and hiatus hernia, also may precipitate this syndrome.

The higher mortality figure for the nocturnal angina patients raises a significant question concerning the "time-honored concept" of the beneficial effect of recumbent rest in the patient with ischemic heart disease (due to insufficient supply of blood to the heart). Dr. Griep added: "One also wonders how much harm is done to the ischemic heart disease patient who is forced into motionless sleep by narcotics and heavy sedation."

Following an anginal attack, most patients find that sitting up or standing for a short time is beneficial. After the initial bout is over, the patient often can lie down again without further difficulty.

"Avoiding late evening meals often helps avert angina decubitus," the author noted. "It is not the size of the evening meal but the timing that is important. A small meal at 4 p.m. with no subsequent evening snack is usually beneficial.

"Sleeping in the semierect position may be helpful but this usually cannot be successfully maintained." He suggests gradual progression from a head-up to a recumbent position over a period of 30 minutes to one hour. Because dreams due to anxiety may precipitate nocturnal angina, sedation and other measures that may alleviate anxiety can be helpful.

Other therapeutic measures include anticongestive treatment of occult heart failure and administration of mild sedation.—Griep, A. H.: Nocturnal Angina Pectoris, GP 29:78 (April) 1964.

Office Treatment

Postpartum Care of the Cervix

ROBERT E. PFUETZE, M.D. *Topeka**

THE MINOR INJURIES and abnormalities resulting from childbirth may be cared for in a manner conserving the time of both the physician and the patient. This can be done adequately when results are considered. One sees a number of patients, however, who have been treated very inadequately. The six weeks' examination of the pelvis may be omitted entirely or, in the contrasting extreme, the patient and the physician subject themselves to endless treatments and visits which, as far as results are concerned, could as well be omitted.

A striking example of the latter form of treatment was the initial reason for this study of 600 consecutive cases which are presented in this paper. A patient came in with the complaint that she had been treated for two years following the birth of her baby. During this time she had had her cervix packed or painted from one to three times a week. We cauterized her cervix once and saw her again for a follow-up six weeks later at which time she was cured. She has since delivered her second baby after which her cervix required no treatment.

The Cervix and Symptoms

The cervix often is the cause of or participates in numerous complaints of women who date their troubles from some previous pregnancy. It is almost always injured grossly or microscopically in every delivery and together with proliferative and involutional changes following each other it easily becomes the source of chronic infection and discharge.

Nearly all cervices will show some degree of laceration following delivery. There will be some first intention healing and granulation tissue will almost always have been covered by epithelium by six weeks. If the laceration has extended back any distance on the cervix, however, it may be allowed to gap open, more easily exposing the columnar epithelium of the endocervix which becomes more easily irritated and infected. The inflammation, swelling and edema of this tissue then forces the cervix farther open exposing the endocervical tissue to more irritation. This gives us the familiar picture of eversion or when more

advanced, ectropion. Many of these are possibly congenital in their origin and may be found in young girls or virgins.¹

In the normal cervix the squamous epithelium meets the columnar epithelium at or inside the ex-

Active treatment of the cervix at the six weeks' check-up or as soon thereafter as possible will assure that the patient will have a normal cervix that will not easily develop cancer later or be the site of a chronic infection.

ternal os thus protecting the columnar epithelium which seems to have a lower resistance to the various irritations and bacteria encountered in the vaginal canal. At the six weeks' check-up there may still be some edema present but the surface of the cervix will be pink in color with little inflammation. At the junction with the columnar epithelium the glands will be shallow with slight, round cell infiltration.

An eversion may persist for several years or may undergo metaplasia with shifting back and forth of squamous and columnar epithelium. Deeper glands may be occluded forming nabothian cysts which at times considerably enlarge the vaginal portions of the cervix. Chronic infection stimulates the excessive production of mucopurulent discharge and may be the source of a more distant infection.

This local irritation is a generally conceded exciting cause of cancer. Numerous papers have been written presenting large series of patients who have had adequate treatment of the cervix with a very small incidence of subsequent cancer.² A few years ago a paper was published showing the very low incidence of cancer of the cervix as a cause of death in Catholic nuns as compared to cancer of the fundus in the same group. In other series the proportion is reversed and in women who have borne children the anticipated incidence of cancer of the cervix is several times greater than in nulliparas. A study of the causes of death in Catholic nuns in 1963 reconfirms the older study.³

* Presented at the sectional meeting of the American College of Surgeons, Kansas Chapter on October 6, 1963 at Halstead.

Plan of Treatment

The correct treatment of the cervix immediately postpartum is often one of neglect. If the cervix is bleeding or a large laceration is present it should, of course, be sutured. Minor lacerations, however, can usually be more easily treated later as can the large edematous eversions which will have become considerably reduced in size.

In an effort to determine proportionately how the cervix was being treated and what results were obtained a chart was kept on 600 consecutive patients as they appeared for postpartum examinations. As indicated in Table 1, a little more than one-half were classified as having eversions or erosions. A few more of the normals should have been so classified since 35 had some degree of eversion present at one year. All were assumed to be slightly lacerated.

TABLE 1
THE CERVIX AT SIX WEEKS

	600 Cases
"Normal"	298
Mild Eversion	217
Moderate Eversion	80
Marked Eversion	5
Lacerations 2nd degree	27
Lacerations 3rd degree	2

Most superficial or temporizing forms of treatment will prolong the period of healing if the patient actually ever completely recovers a normal cervix. If epithelialization by squamous epithelium finally takes place many glandular areas will often be covered over to later develop nabothian cysts or the margin between the two forms of epithelium will move back and forth leaving an area of potential irritation, chronic infection, and metaplastic activity of epithelial cells.

As noted in Table 2, nearly half of the cases of eversion were treated at the six weeks' check-up. Treatment was delayed if bleeding, continued uterine discharge, or lochia was present. Occasionally a menstrual period would appear imminent or perhaps had not entirely ceased, postponing the treatment. Again if a pessary was inserted, active treatment of the cervix was delayed. If possible, treatment should always be done at six weeks since a number of patients for one reason or another will fail to return later. The cancer prevention or esthetic value of treatment will then be lost for lack of application.

In the typical large eversion of *Figure 1*, a large mass of swollen inflamed glandular tissue covers a

TABLE 2
TREATMENT OF EVERSION AT SIX WEEKS

	302 Cases
Spontaneous cure	16
Surgical repair of laceration	3
Coagulation at 6 weeks	117
Recoagulated later	5
Delayed coagulation (3-13 mo.)	126
Recoagulated later	4
Not treated and not followed	40

large portion of the cervix sometimes described as cervical lining hanging out of the cervix much like the elongated lining of a sleeve.¹ This eversion at six weeks postpartum probably originated from a congenital erosion⁷ that was exaggerated by cervical laceration of childbirth and subsequent irritation and infection from vaginal contact. Vaginal douches and tampons will have little effect in replacing this tissue with smooth, pink, difficult-to-infect squamous epithelium.

Figure 2 shows a low power view of a cross section of this thick mass of inflamed edematous tissue. Loss of surface epithelium and abundant round cell infiltration below the cylindrical epithelium is evident. To destroy it the cauterization must be carried deeply.

Several methods of treatment were used but all involved total destruction of all everted columnar epithelial tissue and glands or mechanically replacing this tissue in surgical repair of the cervix. No one method of treatment will best care for every abnormal

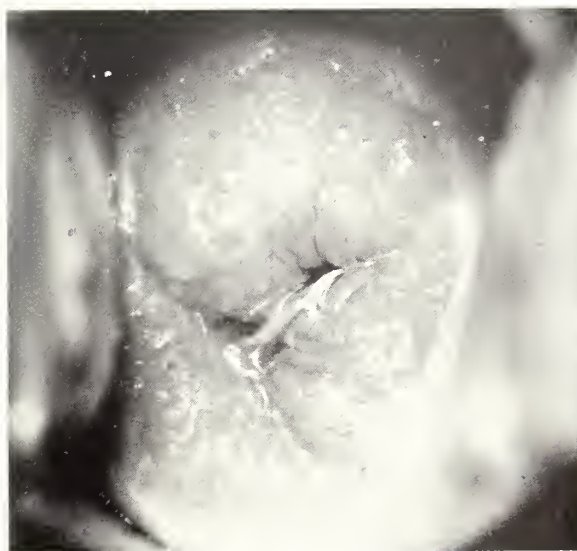


Figure 1. Typical large eversion of the cervix six weeks postpartum. Spontaneous healing rarely occurs.

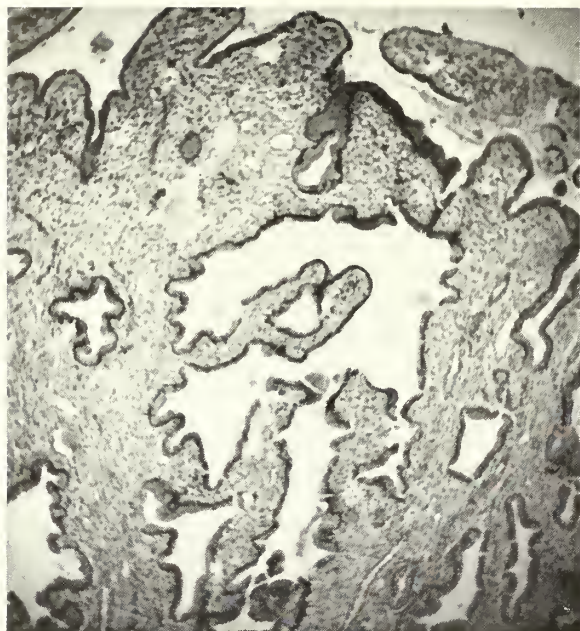


Figure 2. Low power of a section of the thick edematous glandular tissue showing loss of epithelium and round cell infiltration.

cervix although one might, of course, predominantly use one method as a personal preference. In this study cauterization, coagulation, conization, and surgical repair were used.

Cauterization or Coagulation

In Figure 3 the eversion has been destroyed by cauterization. It makes no difference what pattern of application is used as long as the entire layer of glandular columnar tissue is destroyed. No islands of eroded tissue may be permitted between the cautery strokes.⁶

The advantages of this type of treatment are that the instrument is easily available, inexpensive, easily transported and simple to operate. The disadvantage is that it is a little slower than the next method, sometimes more painful and the patient may complain of the radiated heat on the vaginal wall. The smoke from the cautery has a disagreeable odor and the patient complains of a little more discharge than in coagulation or conization.

Coagulation is the treatment of choice since it causes a rather minor amount of discomfort and can be done quickly, often in 20 seconds or less. An electro-coagulation and cutting unit should be within reach when every patient is examined so that the cervix may be treated as a matter of course before the patient decides to postpone the therapy.

Occasionally patients will be seen who have a rather ragged appearing cervix from multiple tears, or the

cystic surface may be too deep for the cautery or coagulation to easily destroy the entire thickness. The cervix can be smoothed up and the layer removed by using a small loop and a cutting current removing multiple strips of tissue. If the area to be removed is quite large, one lip may be done at one time then the other lip done four to six weeks later. One will often be pleasantly surprised to find at the second operation that the second lip will be much shrunk and less inflamed as though benefiting from the cure of the first lip.

Four weeks after cauterization the cervix appeared as in Figure 4. Epithelialization with squamous epithelium and shrinking down of the cervix was progressing rapidly. The patient had very little discharge which was not annoying. Epithelialization takes place from the periphery and quickly progresses to the endocervical cylindrical epithelium at or just inside the cervical os.⁴ If the coagulation is not carried into the canal there will be little danger of later stenosis.

This cervix will rarely be the site of future infection and discharge. In future deliveries there will be a lessened tendency to tearing and retreatment will usually not be necessary. The idea that large eversions promoted excessive tearing of the cervix was held by Dr. J. Milton Singleton of Kansas City. Many observations have been made of the improved cancer statistics following adequate treatment of cervical lesions.⁵

There were no serious complications from the treatment of any of these patients. No pelvic infection resulted. None of the cervices have been stenosed and

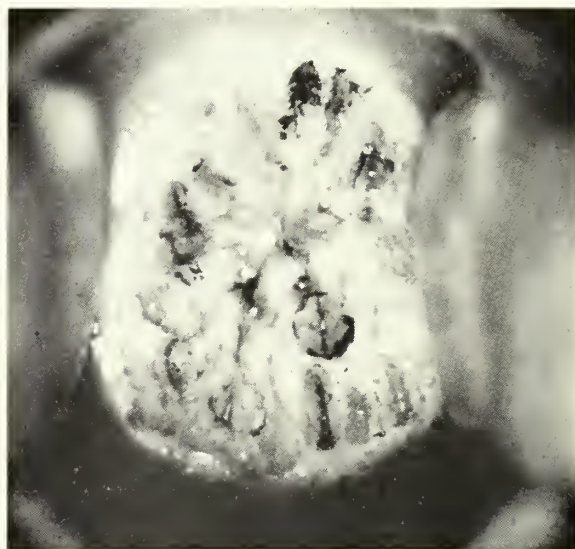


Figure 3. Eversion destroyed by cauterization at six weeks postpartum. Entire thickness of glandular tissue must be destroyed leaving no islands of viable epithelium.



Figure 4. Healing nearly complete four weeks later with squamous epithelium growing in from the side.

only one patient had to be re-coagulated because of hemorrhage. Occasionally varying degrees of bleeding

will result when the slough falls off at about ten days. This can usually be stopped with Monsels solution or packing tightly with oxycel. No antibiotic jellies or powders were used on any of these patients. Their use, however, helps to improve the discharge and hasten healing. Rarely some re-coagulation will have to be done if some endocervical tissue still protrudes from the cervical os some months later.

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Spontaneous Pneumothorax

Conservative or Active Treatment?

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SPONTANEOUS PNEUMOTHORAX is defined as pneumothorax in an apparently healthy individual without antecedent history of pulmonary disease or trauma. Hewson first described the disease in 1767, and Laennec first recorded the physical findings in 1819. Review of the literature on this subject reveals controversy regarding therapy. In order to evaluate the success of management of spontaneous pneumothorax in a large private hospital where varied modes of therapy may be anticipated, this study was undertaken.

Until approximately 30 years ago the etiology of spontaneous pneumothorax was thought to be tuberculosis. Kjaergaard in 1932 first reported the incidence of spontaneous pneumothorax was no greater among patients with tuberculosis than among the general population. Today the major cause is recognized as rupture of congenital or acquired subpleural emphysematous blebs. According to Brewer, the blebs occur primarily in the anterior costomediastinal junction of the upper lobes of the lungs.

Clinically, patients present with symptoms of acute chest pain, dyspnea, or cough; rarely a prodromal of malaise or upper respiratory infection precede the pneumothorax. The mechanism of pain is unknown. It may occur anywhere from the shoulder to the upper abdomen, tends to be progressively severe for several hours, and then subsides.⁹ Physical findings of "Hippocratic succussion" and the "coin sound" are pathognomonic of pneumothorax.¹ Recently Lawson described the "scratch sign" as being a very effective means of diagnosis in pneumothorax.⁸ Temperature elevation is relatively rare and when it does occur it is transient. A familial tendency has not been established but numerous instances of spontaneous pneumothorax occurring in several members of a family have been recorded.¹ Diagnosis is confirmed by x-ray examination. On occasion asymptomatic pneumothorax will be found on routine chest x-ray. In infants the "spinnaker sail sign" or "wind blown sail" appearance of the chest x-ray is diagnostic.¹¹ The use of planograms has been advocated to discover blebs.

* Presented at the sectional meeting of the American College of Surgeons, Kansas Chapter, on October 6, 1963, at Halstead.

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A study of a series of patients having spontaneous pneumothorax—some recurrent attacks—with reference to etiology and symptoms, and comparing the complication rates with different types of treatment.

Baronofsky has reported a 50 per cent false negative incidence with this type of x-ray study. Thoracoscopy has been advocated to establish etiology,¹⁴ but current usage of this procedure is minimal.

Materials and Methods

All cases of spontaneous pneumothorax admitted into St. Francis Hospital from January 1958 to June 1963 were reviewed. Pneumothorax due to trauma, thoracic operations, and thoracenteses were excluded. Appropriate data was abstracted from each record with particular attention to history of chronic lung disease, previous episodes of pneumothorax, site of pneumothorax, per cent of collapse, antibiotic therapy, treatment, and complications.

Results

Forty-three patient charts with the diagnosis of spontaneous pneumothorax were reviewed. Twenty-seven patients (63%) were hospitalized for their initial episode of pneumothorax and 16 patients (37%) had at least one previous attack of pulmonary collapse. The average hospital stay for initial pneumothorax was 10.7 days; for recurrent attacks 7.6 days (*Table 1*).

TABLE 1
SEX, AGE, LENGTH HOSPITAL STAY

		Recurrent Pneumothorax		Initial Pneumothorax	
		MALE	FEMALE	MALE	FEMALE
Number	Pts.	12	4	25	2
Mean Age (yrs.)	. . .	41	33	45	42
Mean Hospital Stay	.	7.6 days		10.7 days	

The interval of time before recurrence of pneumothorax took place ranged from six days to ten years with a mean of 27 months.

Pneumothorax occurred on the left side 20 times and on the right side 26 times in this series. A history of unilateral pneumothorax was obtained in 14 patients and contralateral in only two patients. Two patients with bilateral spontaneous pneumothorax are included.

Of the recurrent group there were 12 males and four females. In the initial pneumothorax group a higher preponderance of males was noted: 25 males and two females. Ages ranged from 18 to 73 years. Association of spontaneous pneumothorax with chronic lung disease occurred frequently in this series of patients. Five patients (18.5%) with initial pneumothorax and five patients (31.2%) of the recurrent group had pulmonary emphysema, chronic bronchitis, or bronchial asthma (*Table 2*). Only one patient was found to have active pulmonary tuberculosis.

TABLE 2
INCIDENCE CHRONIC LUNG DISEASE

	<i>Recurrent Pneumothorax</i>	<i>Initial Pneumothorax</i>
Number Pts.	5	5
Per cent	31	19
Per cent entire series .	23%	

Presenting symptoms included pain, dyspnea, and cough. One patient who had pneumothorax was asymptomatic. This was discovered by routine chest x-ray. The most frequent single complaint was chest pain. Shortness of breath often accompanied the pain. Two patients described shoulder and epigastric pain as initial symptoms. Cough was the chief complaint of only two patients (*Table 3*).

TABLE 3
INITIAL SYMPTOMS

	<i>Recurrent Pneumothorax</i>	<i>Initial Pneumothorax</i>
Chest Pain	14	16
Dyspnea	12	9
Shoulder Pain	—	1
Epigastric Pain	—	1
Cough	1	1

Roentgenograms of the chest revealed an abnormality other than pneumothorax in 42 per cent of patients. Bullae were noted on initial chest x-ray in 18

patients, while pneumothorax without obvious cause was recorded in 24 patients. One x-ray examination suggested pulmonary tuberculosis and this was proven by culture (*Table 4*).

TABLE 4
X-RAY FINDINGS

	<i>Recurrent Pneumothorax</i>	<i>Initial Pneumothorax</i>
	NO. PATIENTS	NO. PATIENTS
Bullae	10	8
Pneumothorax only ..	5	19
TBC	1	0
Effusion	5	13

Treatment varied greatly in this series. Thirteen initial pneumothorax and eight recurrent pneumothorax patients were treated by bed rest alone (*Table 5*). This represents approximately one-half of the patients in this study. Two tension pneumothoraces were recorded; however, both resolved with bed rest. One death occurred in the bed rest group.

TABLE 5
TREATMENT

	<i>Recurrent Pneumothorax</i>	<i>Initial Pneumothorax</i>
	NO. PATIENTS	NO. PATIENTS
Bed Rest	8	13
Thoracentesis	—	7
Closed Thoracostomy .	1	5
Open Thoracotomy ..	7	3

Seven patients, all initial pneumothorax, were treated by thoracentesis alone. Two patients required multiple thoracenteses. Tension pneumothorax was present in two of these patients and hemopneumothorax in one. All recovered uneventfully.

Six patients received closed thoracostomy tube drainage to either water seal or controlled chest suction. One patient later underwent open thoracotomy due to failure of expansion. Five of the six patients treated with closed thoracostomy drainage were in the initial pneumothorax group.

Three initial and seven recurrent pneumothorax patients underwent open thoracotomy. One represented failure of treatment by tube drainage. Pulmonary wedge resection and segmental resection often combined with parietal pleurectomy were the operative procedures utilized. One patient with recurrent pneumothorax developed a postoperative

broncho-pleural fistula and required reoperation. One patient developed empyema and expired following wedge resection.

Antibiotics were administered in 23 patients in this entire series (54%). Of the ten patients undergoing open thoracotomy all received some form of antibiotic therapy. One postoperative empyema was recorded. This particular patient did not fully re-expand in the early postoperative period. One of two closed thoracostomy patients not receiving antibiotic therapy developed a tube-site infection.

Discussion

Hyde in 1962 reported two hundred cases of pneumothorax and concluded that prognosis was excellent with conservative management. MacQuigg advocated routine thoracotomy for all patients with spontaneous pneumothorax. Still more radical was Baronofsky who suggested bilateral thoracotomy for spontaneous pneumothorax.

The diversity of opinion regarding therapy of a disease described for over two generations prompted this review in our hospital. The size of the series is small, but conclusions regarding management can be made.

In agreement with other authors, pneumothorax in our series occurred in younger aged males. There was no special predilection to one side of the chest over the other. Emphysematous bullae were the most commonly encountered etiology. Ten patients (23%) had history of chronic pulmonary disease. Approximately 50 per cent of patients in both the initial and recurrent groups were treated by bed rest alone. This unexpected finding encouraged further evaluation of this mode of therapy. Rottenberg and Golden reported the average time for re-expansion as four weeks. Kircher and Swartzel found an average rate

of air absorption of 1.25 per cent per day. On this basis they recommended bed rest for patients with pneumothorax of 20 per cent or less. This is widely accepted in the current management of this disease.³ Ellis and Carr stated that because of the prolonged hospitalization required for pneumothorax to resolve spontaneously, immediate re-expansion by intercostal catheter should be done when more than just a rim of pneumothorax exists.

This review of 43 patients reveals the shortest period of hospitalization occurred in those treated with bed rest (*Table 6*). Though expansion was not proven to be complete at the time of discharge from the hospital, re-expansion was taking place rapidly, and total expansion took place out of the hospital environment. No single readmission into the hospital was noted in this bed rest group because of difficulties in spontaneous re-expansion of the collapsed lung.

Lengthened hospitalization coincided with the complexity of the treatment. This is reflected in the over-all increase in the complication rate of those treated by methods other than bed rest alone. The patient who did not re-expand, of course, required more vigorous operative treatment, and would be categorized as the "difficult expansion problems." Per cent of collapse was about equal in both the recurrent and initial groups, as well as among the differently treated groups. Per cent of collapse then, did not necessarily affect any group in evaluating treatment.

Approximately 50 per cent of patients received antibiotic therapy. Infections occurred in two patients who received prophylactic antibiotics. One was an infection of an intercostal catheter site, and the other a patient with persistent pulmonary collapse (*Table 6*). Of the patients that re-expanded no sepsis was encountered with or without antibiotic therapy. The

TABLE 6
COMPLICATIONS, MORBIDITY, MORTALITY

	No. of Patients	Hospital Stay		Type Complications	Per Cent Compli- cations	Deaths
		RECURRENT	INITIAL			
Bed Rest	21	5.4 da.	6.3 da.	Tension (2)	10	1 (5%)
Thoracentesis	7	—	11.6 da.	Tension (2)		
				Hemo- pneumo (1)	43	—
Closed Thoracostomy	6	16 da.	14 da.	Persistent pneumo (1)		
				Infected tube site (1)	33	—
Open Thoracotomy	10	11.1 da.	18 da.	B-P fistula (1)		
				Empyema (1)	20	1 (10%)

over-all complication rate in this series was 20 per cent. Tension pneumothorax was the most frequent complication (9%) and occurred in the thoracentesis and bed rest treated groups. MacQuigg reported tension pneumothorax varies from 10 to 16 per cent. At no time did the degree of tension cause acute severe increasing dyspnea. In these patients chest x-ray revealed mediastinal shifts, and tension pneumothorax was noted.

Pleural effusion of different degrees occurred in over 20 per cent of our cases, however as noted by Banjai "Clinically detectable pleural effusion is present to some degree in the majority of patients with spontaneous pneumothorax." Pleural effusion had no apparent significance in this study.

The recurrence rate of pneumothorax in this study was 37 per cent. Myers reports variations from 15 to 60 per cent recurrences in reviewed series. Conservative management of pneumothorax apparently influences this percentage favorably. Over-all mortality in this study was 4.7 per cent (2 deaths). Kjaergaard reported 3.0 per cent mortality in a much larger series. One death resulted from bed rest treatment misdiagnosed initially as a coronary occlusion and treated with intermittent positive pressure oxygen. The other was an expansion failure after open thoracotomy with resection of massive pulmonary bullae.

Summary and Conclusions

1. Partial collapse of the lung (less than 50%) can be treated with bed rest alone if the lung is expanding.
2. Antibiotic therapy does not alter the clinical course if expansion of the lung takes place.
3. If expansion of the lung does not take place spontaneously, closed thoracostomy with tube drainage is the procedure of choice.
4. Thoracotomy with resection of bullae should be reserved for recurrent pneumothorax and unex-

panded initial pneumothorax, if closed thoracostomy drainage is unsuccessful.

5. Bullae are the most commonly encountered etiology of pneumothorax.

6. Thoracentesis increases the complication rate of initial pneumothorax over that of bed rest.

7. The duration of the hospital stay is lengthened by the complexity of treatment.

8. The over-all mortality in this series is 4.7 per cent; complications occurred in 20 per cent of patients.

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A Kansas Surgeon Abroad

Experiences With Project HOPE in Peru

WILLIAM P. WILLIAMSON, M.D., *Kansas City, Kansas**

IT HAS BEEN MY extreme good fortune to have spent a two month tour of duty with Project HOPE in Peru. It far surpassed my meager imagination of what it would be like, and proved to be a rich experience of soul shattering magnitude, and filled with joy and sadness, confusion and anxiety, education and pleasure, compassion and bitterness, humility and pride. So much, that was so different, was packed into these two months, that it seemed like two years, and to try to share with you even a small part of it leaves me almost lost in trying to decide what aspects to discuss. For it was an education to me in many ways—the unbelievable squalor, poverty, and suffering destined for some people, the insurmountable health problems, the remarkable Inca and pre-Inca civilizations and ruins, the magnificent natural beauties of a strange country, the unbelievable accomplishments of love and compassion, the difficulties of language and cultural barriers, the political implications of a people-to-people program, the amazing adaptability of human beings, and the total apathy of a backward nation. But I shall try by hitting lightly a few high spots, showing a few of the many pictures I took, and summarizing with few of the lessons that I think I learned.

Project HOPE was founded by an internist from Washington, D. C., Dr. William B. Walsh, basically to initiate a project aimed at international good will and understanding through personal contacts—a real people-to-people endeavor. To support this, the People-to-People Health Foundation, Inc. was established, an independent non-profit corporation, unrelated to government or church, and supported by private contributions.

A naval hospital ship, the 15,000 ton *Consolation*, was refitted and christened *S. S. HOPE*—the letters of which stand for "Health for Other People Everywhere." Its mission in each country is not just solely for medical treatment, but one of teaching and training—to help others help themselves—a very basic, significant key to its success. It has functioned only two years—the first in Indonesia and Viet Nam, the second in Peru.

It was invited to Peru through the efforts of the Peruvian-North American Medical Association, whose president, by the way, is a US trained neurosurgeon, Dr. Cabiesis. It spent the entire year anchored at Salaverry, the port city of Trujillo, in northern Peru, six degrees below the equator. Its major task was to integrate into the teaching program of the University of Trujillo Medical School, the newest of four medical schools in Peru, now in its fifth year of existence. Project HOPE ran its complete hospital aboard ship, utilizing 100 active beds, and every *Norte Americano* aboard ship had a Peruvian counterpart for training—doctors, nurses, nurses' aides, technicians, laboratory personnel, record clerks, librarians, etc., so that North and South Americans worked side by side in the common effort for training. Medical students as well as attending medical staff rotated aboard ship to see and learn the way we did things. Secondly, we integrated into their hospital to see how they did things, and to try to understand their basic problems in their setting. We ran large outpatient clinics in both their hospital and ours, a huge public health program was initiated in their *barriadas*—their slums—with vaccinations, inoculations, child health and maternal health, and milk distribution programs. Thirdly, we went in teams to other cities and hospitals in Peru for a two or three weeks' tour of duty, to work in a teaching and service capacity, and disperse the effects of the Project throughout the country. The ship itself is run by Grace Line with a crew of about 60. The nurses and technicians are employed for a full year at a time, and paid for their services. The doctors, but for two or three permanent staff, rotate for a two month tour of duty, donating their time, and receiving in addition to their transportation by air, room and board, and experience in human emotion that is unforgettable.

The People and Their Country

Now a bit about the country and the people, for Peru is a fascinating strange country geographically, being essentially three different countries, each with its own peculiar climate, people, customs, and problems.

The coast, where we lived and worked, is a true desert—it *never* rains. It averages 100 miles in width and runs the full length of the country from Ecuador to Chile. It is crossed by some 50 to 60 rivers, drain-

* Presented at the sectional meeting of the American College of Surgeons, Kansas Chapter, at Halstead on October 6, 1963. Dr. Williamson is a Professor of Neurosurgery at KUMC.

ing water down from the Andean mountains, and only a few of these rivers contain water the year round. Coastal cities or towns, and the only green that can be seen, cluster at the mouth of each river on the coast. Summer and winter on the coast varies only ten degrees, the sun is hot and directly overhead, but the air is cool and crisp, with steady breezes from the ocean, cooled by the cold Humboldt current sweeping up from the South Pole. This makes the climate the most delightful in the world—hot sun, cool breeze, crisp nights, magnificent sand beaches, the richest fishing waters in the world on one hand, and tremendous mountains on the other.

The Andean mountains, from 100 to 400 miles wide, also run the length of the country, and are spectacular for their sheer ruggedness, their precipitous peaks, high plateaus, and deep canyons. Many are snow capped, and average much higher than our Rocky mountains.

The Jungle, everything east of the Andes, is huge, broad, and flat, and comprises the headwaters of the Amazon—and is what its name implies, completely undeveloped jungle. There can be only a guess as to how many primitive Indians live there.

Medical Experiences Aboard the HOPE

Now back to some of the practical medical experiences that might be of interest. The HOPE was a rather remarkable hospital. I was a bit irritated that up to the point I left the States, I had been given no information on what it would be like or what to expect. I soon realized that this would have been impossible to do, and if they had told me, I wouldn't have believed it. Having seen it, I still don't believe it! Our team of 25 doctors arrived about 5:30 p.m. one evening, and at staff meeting that evening, our orientation consisted of some pleasantries, and general remarks like "there are 50 postoperative patients down there, six cases scheduled for you fellows tomorrow; you'll also work in Belen Hospital and find it pretty queer, but it's wonderful and it's nice knowing you, and we leave in the morning and goodbye!" We were at first shocked by what appeared to be total disorganization—but soon realized that it had to be, and you made it work in spite of it. Imagine a modern hospital of 100 beds, large outpatient clinics, full teaching program of medical students, residents, and paramedical personnel, but no hospital administrator; whose entire medical staff, 30 doctors, with completely different backgrounds, training and interests, changed every two months! Add to this the tremendous difference in culture and *modus operandi*, and you might get a little inkling of the chaos into which one found himself dropped. That first week was a nightmare!

I never studied Spanish in school. Two months

before I left for Peru I got a little home Spanish course with some records that I worked with only very haphazardly. So my first patient took me three hours to work up, using a teenaged Peruvian nurses' aide who spoke broken English, as an interpreter. Eight days later I worked up my first patient without an interpreter. This does not reflect on my ability, but simply shows what can be done when you have to do it. My Peruvian counterpart, a neurosurgeon from Trujillo, spoke only very broken English, and as we communicated, I would correct his English and he would correct my Spanish. Though this initially took much time, in the long run it saved time, and we all soon found out that the only way to learn another language is to make yourself plow right in and speak it, at every opportunity. Though it is personally embarrassing, it is greatly appreciated by the natives, for they know you are interested enough in them to try to learn their language, and their way of life. This means very much to them.

The nurses were magnificent. I have never seen such superb nursing care, such genuine devotion and concern for patients, and such dedication and ability as exhibited by these wonderful people. This was the biggest impact on the native Peruvian indigent. They have never had the experience of having anyone care. And to go from squalor, poverty, filth, and hopelessness into an environment of cleanliness, attention, concern, good food, and health, rendered by people asking for nothing, but contributing their time and talents out of concern and compassion, was a completely overwhelming experience for them. Trujillo was a center of anti-Americanism before HOPE, and the term, "Gringo," was used with disrespect as an epithet. Walls were covered with "Castro Si, Yankee No" signs, and many medical students wore Castro beards. Now, post-HOPE, the term, "Gringo," is spoken with respect and adoration, and anywhere in Peru, a HOPE doctor or nurse is received with open arms, and their warm hospitality is overwhelming.

Good medicine and surgery was practiced on the HOPE, with obsolete, broken down, second hand equipment. Neurosurgical instruments were makeshift and very limited, but one made do with what one had, and often made do without anything. All surgical specialties were represented, and all major and highly specialized procedures were done. The personnel were so superb and the *esprit-de-corps* so marvelous, that things got done, problems were solved, shortages were bypassed, and everyone was cheerful and happy. My first operation was done on a table whose gears were broken; it could not be raised, lowered, or flexed. The electrocautery sputtered, wouldn't work, and finally shorted out and burst into flames. The few specialized instruments I had would be discarded from our dog laboratory;

my scrub nurse spoke no English; and my assistant couldn't understand anything, but would always say yes—but we got the job done. Almost never did anyone on the HOPE lose their temper, or say an unkind word. Three operating rooms worked full time, 1,630 major operations were done, and 6,000 outpatients from all parts of Peru were treated.

Belen Hospital

Experiences in Belen Hospital were more trying. Here, the jarring impact of cultural differences and unbelievable apathy gradually sank in. This is a 540 bed hospital, used as a university hospital of a medical school, in the third largest city of Peru. But—there was one night nurse on duty. There were no screens on the windows, and no refrigerator in the hospital. Garbage was stored outside the open windows of the pediatric wards. They didn't wash children's diapers—only laid them on the roof to dry and use again. If you order a medicine or intravenous fluids for a patient, the patient, or his family, must go downtown to the drug store and buy it, and bring it back, before it's given. It took HOPE pathologists and technicians working in the laboratory four months to get them to label specimens or wash pipettes, three months in the blood bank to get them to label blood and cross match it. Guinea pigs were bought for the laboratory, and they had a banquet and ate them! After eight months we got them to have the first surgical case conference ever held in the hospital. On the obstetrical service, midwives deliver the babies, and do episiotomies, which aren't sewed up until the doctor's convenience in the next day or two. Infectious disease is not isolated. Bed linens were filthy with vomitus and feces—uncovered, unemptied bed pans sat all about the wards, along with uncovered food served like slop. And after examining a patient under these conditions on a 30-bed ward, I asked to wash my hands, and this was impossible—for there was no place to wash hands. Toilets are a rarity in Peru. Men and women use the streets. We finally got the sign "Please don't urinate on the walls" put up in one hospital. It will be 50 years before they get to the "Don't spit on the floor" stage.

Their infection rate in surgery is 90 per cent. The instruments are baked, not sterilized, and they have an interesting "flash" sterilization if in a hurry. Put the instrument in a pan, pour rum on it, light it with a match, let it burn for a few moments, then use the instrument and later drink the rum.

The staff doctors all hate each other violently, and in the medical school there is open warfare between departments. Medical students frequently go on strike. Students have 30 per cent of the votes in the execu-

tive faculty, but they are the majority vote, for they are united, and the faculty can't agree on anything. The chief of surgery tries to hog all the operating time, and will not allow the local neurosurgeon even an anesthetist or scrub nurse. One individual man owns the x-ray machine, and won't let other doctors' patients have an x-ray unless he is bribed. This chaos was inconceivable to us, for it is not from lack of education. Their basic science courses in medical school were superb, and many of the clinicians have trained here in the States. But the people in charge get their jobs by bribery, or crooked politics, not by competence, and it is these doctors that are holding back medical advance—in order to hold their positions and social stature. For if progress comes, these people will lose their positions. And this basic cultural difference was the hardest thing to understand. It is the have and have nots in Peru. Five per cent of the people have 95 per cent of the money, and show no concern for those who have nothing. There are no charitable organizations in Peru. There is no concern for human life, or suffering, or poverty. They simply don't care. People gain their position by bribery, lying, or political chicanery. Politics and government are completely corrupt. A typical sign on the wall concerning the coming election was: "Vote early and often, we change robbers in June." They are completely sunken in a morass of total apathy, with no concern for fellow man, for truth, for reliability. They have no concern for time, for hygiene, for repair of equipment, for efficiency. Everywhere you turn to accomplish anything, they shrug their shoulders and say it is impossible. Education, transportation, communication, economics, politics, social welfare—all are so backward it is unbelievable. And 1,000 years ago, their civilization was highly organized, highly successful, artistic, cultured, and very advanced in social custom, with the Mochias, the Chimus, finally the Incas. But the Spanish conquistadores changed all that, and now it is shocking to see a country magnificent in its beauty, and wealthy in its natural resources, lying prostrate in filth, poverty, and corruption.

So our experiences at Belen Hospital were very trying. The older doctors in power did all they could to interfere and not cooperate, but the younger and progressive ones were hungry for knowledge and soaked it up like a sponge. We ran huge outpatient clinics, and an operating room there to prove that even in their setting, good work could be done. There was unlimited work to be done, and insurmountable problems, and each day there, looked at from a small point of view, made it all seem ridiculous and futile. But the total impact of the entire adventure was fantastic.

Gratitude From the People

Two weeks before departure, a reception was held at the municipal stadium attended by 20,000 people. At no previous time in history had any Peruvian event drawn more than 5,000. We received a four and one-half hour standing ovation, and a program I shall never forget. And anywhere one went in Peru, the word "HOPE doctor" was like magic. We were overwhelmed with hospitality, gratitude, and praise. When the ship left, it was literally covered with flowers, and 30,000 people were on the docks for the ceremonies. And after the noise of bands, fireworks, airplanes roaring over, speeches, and shouting, as the HOPE pulled out of the harbor, dead silence followed. Not a soul moved or turned away as the ship slowly slipped out of sight. All one could see and hear were sobs and tears, until the last glimpse of its stack going over the horizon had gone—30,000 people crying! The impact of our visit to Peru will never be forgotten, and communist influence has been set back a century and American prestige has risen tremendously. This is because we started with the people, worked with them, played with them, ate and danced with them, and tried to understand their problems from their point of view, and helped them help themselves.

A Lesson in Appreciation and Understanding

What great lessons did I learn? First, my eyes were opened to realize the unbelievable blessings that have been showered on our country. I have a new appreciation for my nation, my health, my family, my tradition. My cup runneth over. Secondly, I learned that though any one individual's effort, or

any one day's activity, or any situation or condition can be ridiculously futile and seem stupid and hopeless, yet if it is tied to some great cause, the total impact can be tremendous. And it isn't whether you win or lose. We couldn't solve the health problems, the squalor, the ignorance, the cultural apathy—but it is how we fought the fight that was significant. Thirdly, this type of program politically is 1,000 per cent more effective than anything the State Department has ever done. Just pouring money into a country does no good. The crooks and politicians get it, and the needy people never see it. We are the laughing stock of other countries for this type of action. Fourthly, Medicine has a natural entree into any country and the potential, economic, social and good will implications of Project HOPE are fantastic. Forty-six countries are begging for it, and its activities are spreading out. We plan to keep a team of 25 medical, nursing, and paramedical personnel in Trujillo three more years working in the new university hospital. A smaller ship will be on the upper Amazon, and *S. S. HOPE* goes to Guayaquil, Ecuador this fall. And if anyone here wants to have the experience of a lifetime—just sign up! Finally, as they are apathetic in their poverty, we, here, are apathetic in our wealth. We spend our time griping and complaining, chasing after the almighty dollar, spending more than we make, and everyone trying to get all he can. America needs to wake up, for these countries south of our border are ripe for communism. Anything is better than what they have. And Project HOPE taught me that people are more important than money, that love and compassion are more powerful than guns and armies, and that you can't give of yourself without receiving one-hundred-fold in return!

MONONUCLEOSIS

Prolonged bed rest usually is not warranted in the treatment of infectious mononucleosis (glandular fever) even though complications may occur in rare cases, reports Dr. Willard Dalrymple of Princeton University, Princeton, N. J.

"The possible occurrence of the complications or manifestations most likely to be fatal, namely, ruptured spleen and neurologic manifestations, does not justify prolonged bed rest as a preventive measure." Nor, he added, does the hepatitis of infectious mononucleosis require bed rest, at least after the jaundice disappears.

The medical literature, he points out, "appears to contain no documented case of fatal hepatitis resulting from infectious mononucleosis. . . . Perhaps patients who are jaundiced deserve somewhat more attention, but information . . . indicates that they usually recover as rapidly as other patients with mononucleosis."

In the occasional severe cases of this common disease, "corticosteroid therapy may be lifesaving," he concluded.—Dalrymple, W.: Infectious Mononucleosis, *Postgraduate Medicine* 35:243 (March) 1964.



Tumor CONFERENCE

Subglottic Carcinoma of the Larynx

Edited by JAMES M. FLYNN, M.D.,* *Kansas City, Kansas*

Dr. Spenelli (Otorhinolaryngology Resident): This 58-year-old white man was admitted to the University of Kansas Medical Center for the first time on October 10, 1963. His chief complaint was hoarseness which was progressive over a two-year period and it was associated with intermittent dyspnea for the past 18 months. The dyspnea was particularly notable on exertion. There was no dysphagia. He had lost approximately 35 pounds over this same period with approximately one half this weight loss occurring over the three months prior to admission.

The past medical history included two episodes of chest pain in 1958 and 1959 with electrocardiographic evidence of anterior wall myocardial infarction with later extension of the infarct to the lateral wall of the left ventricle. He had smoked an average of one to one and a half packs of cigarettes per day since age 20. He also had a history of excessive alcohol intake up to about four or five years prior to admission.

On physical examination the patient appeared thin and chronically ill but was in no acute distress. He was hoarse. On indirect laryngoscopy there was a mass involving the left vocal cord. Examination of the chest revealed an increase in the AP diameter and a hyperresonant percussion note. The remaining physical examination was within normal limits.

It was apparent on examination that dyspnea was significant even at rest and, therefore, a high tracheostomy was done. The larynx was examined and biopsied under general anesthesia.

Dr. Stanley R. Friesen (Surgeon): Let us stop for a moment and summarize the major findings in the history thus far. We have a 58-year-old male smoker with hoarseness. I note that the hoarseness has been present for two years. Did he seek help for this symptom during that time?

Dr. Spenelli: Yes, he consulted his physician several weeks after the onset of hoarseness. The physician examined the larynx by indirect laryngoscopy and did not see a significant abnormality. He, therefore, considered the hoarseness to be due to an inflammatory disorder. The symptoms were treated as laryngitis at that time and subsequently.

Dr. Friesen: He also had dyspnea and weight loss in addition to the hoarseness. Did he return to his physician during this period for further examination?

Dr. Spenelli: No, he was apparently satisfied with the physician's initial examination.

Dr. Friesen: What did the biopsy done here show?

Dr. Spenelli: The biopsy was reported as showing "acute and chronic laryngitis, ulceration, and dyskeratosis."

Dr. Friesen: What was done next?

Dr. Spenelli: The possibility of a granulomatous inflammatory disorder was considered and skin tests for tuberculosis and histoplasmosis were done. Both were negative and five days after the first biopsy a second biopsy was carried out, again under general anesthesia. This second biopsy showed an invasive squamous cell carcinoma.

Dr. Friesen: Dr. Boley, would you show us this second biopsy, please?

Dr. J. O. Boley (Surgical Pathologist): We received several irregular fragments of tissue. On microscopic examination some showed typical submucosal mucous glands and large numbers of lymphocytes with formation of follicles in some areas. You will note that the overlying epithelium is of the squamous type. This is abnormal for the area from which the biopsy was taken below the level of the vocal cords. This mucosa is normally composed of ciliated pseudostratified columnar cells ("respiratory epithelium"). The squamous cell mucosa seen here is abnormal and is the result of metaplasia due to an unknown factor. On the other hand, if the biopsy came from the

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vocal cord it should be covered by a squamous epithelium which would be normal in that location. If we examine this chronically inflamed tissue, we see small nests of cells larger than lymphocytes which exhibit a vesicular nucleus with dense chromatin clumps about the nuclear membrane and prominent nucleoli. An occasional mitotic figure is seen within these cells. These nuclei and cells also show variation in size and shape. In some areas vague attempts at pearl formation are present. We have, therefore, a fairly well differentiated invasive squamous cell carcinoma.

Dr. Friesen: Dr. Kirchner, would you comment on the problems in making a diagnosis in this case?

Dr. Ferdinand Kirchner (Otorhinolaryngologist): This case illustrates some of the difficulty in making a diagnosis of a subglottic lesion and for the surgeon some of the problems in endoscopic biopsy. You will recall that under the old classification carcinoma of the larynx was divided into intrinsic and extrinsic groups. The intrinsic group were those arising primarily from the vocal cord which, as Dr. Boley has pointed out, is covered by a squamous cell mucosa. The remainder of the larynx with the exception of the epiglottis and tip of the arytenoids is covered by a "respiratory epithelium." These two groups of carcinoma frequently present different problems in diagnosis and prognosis. One feature of the subglottic carcinoma is airway obstruction. The supraglottic or glottic carcinoma produces early dysphonia. Occasionally dysphagia from extension into the pharynx is an early symptom. The supraglottic tumor also gives rise to pain earlier as a rule than does the subglottic tumor. It is not uncommon to see a subglottic carcinoma present as in this case with severe dyspnea due to the respiratory obstruction. The subglottic tumor is more difficult to see since it may be hidden behind the vocal cord as it was in this case. For this reason the lesion is difficult to biopsy and we may obtain only inflamed tissue which is otherwise normal. Inflammation is common in carcinoma of the larynx because of ulceration of the tumor and secondary inflammation or necrosis with secondary inflammation.

Dr. Friesen: I believe that carcinoma of the larynx is treated by either surgery or irradiation. Would you tell us the indication for treatment by either of these methods?

Dr. Kirchner: The treatment and prognosis depends upon the site where the primary tumor arises and the degree of extension of the tumor as well as the presence or absence of regional or distant metastases. These tumors arising on the true cord have a far better prognosis for several reasons. They produce symptoms of dysphonia early and, therefore, tend to be treated earlier. A second reason is that the true cord contains relatively few lymphatic chan-

nels as compared to the infraglottic or supraglottic areas. These "intrinsic" carcinomas have been classified according to extension into three types.

Type 1. This is the carcinoma which is confined to the epithelial layer, shows no invasion and involves one third or less of the vocal cord. In my opinion all of these should be irradiated. Sometime ago we were doing cordotomies for this lesion, however, the five-year survival with irradiation is better than 90 per cent and has the distinct advantage of leaving the cord with near normal function.

Type 2. These carcinomas involve two thirds of the vocal cord but are confined to the epithelial layer and do not invade or involve the muscles between the arytenoid and thyroid cartilages. This lesion also has a high cure rate by irradiation and a five-year survival of approximately 80-90 per cent.

Type 3. In carcinoma of this type there is some fixation of the cord and it is an invasive lesion. It may involve the posterior one third and invade the arytenoid cartilage or muscles attached to it. This lesion may also be treated with irradiation; however, the five-year survival is less. Carcinomas involving the supraglottic or infraglottic areas are quite different in that they are more difficult to approach and frequently have metastases to regional lymph nodes by the time operation is done. In these cases we prefer to do a total laryngectomy in continuity with a radical neck dissection. Those individuals with a subglottic lesion have the poorest prognosis in that this area is very rich in lymphatics and metastases are the rule rather than the exception. The lymphatics in this area are in direct continuity with those of the mediastinum and, therefore, we have to deal not only with metastases in the neck but also within the mediastinum. It is not uncommon to see metastatic lesions invading the trachea and these individuals have an extremely poor prognosis. This individual was treated by a total laryngectomy and left radical neck dissection.

Dr. Friesen: Dr. Boley, would you tell us about the pathology please?

Dr. Boley: The specimen received in surgical pathology consisted of the larynx and attached left neck dissection. When opened posteriorly a raised irregular superficially ulcerated tumor mass was seen which measured approximately 3 x 4 cm. The main mass of the tumor was located immediately beneath the left vocal cord; however, the tumor extended across the midline anteriorly and posteriorly. It also extended superiorly into the base of the vocal cord, displacing it towards the midline. The tumor also invaded the wall of the trachea and portions of the tumor involved the adjacent soft tissues. No gross evidence of tumor spread above the level of the vocal cord was seen. The distal line of resection was approximately 1-2 cm. distal to the inferior margin of grossly recognizable tumor. Microscopically, the

tumor exhibited features similar to those noted in the biopsy. It was partially covered superficially by a metaplastic squamous mucosa which showed dys-karyotic features as one frequently sees adjacent to these tumors. The metaplastic mucosa merged abruptly with cells showing markedly atypical features and from which finger-like processes and nests of malignant cells invaded the underlying fibrous stroma. The stroma contained a dense infiltrate of lymphocytes and plasma cells between these tumor nests. The cells exhibited the same atypical morphologic features noted in the biopsy specimen. In addition definite keratin pearls and individual cell keratinization was present as well as intercellular bridges. These features definitely establish this tumor as a well differentiated squamous cell carcinoma. A total of 27 lymph nodes were examined and no metastatic tumor was seen within them. They showed only reactive hyperplasia. This specimen also included the left lobe of the thyroid and the submandibular salivary gland which showed no significant abnormalities.

In our experience the surgeon may make several attempts to biopsy a tumor in this location before he obtains a portion of the tumor. Its position behind the vocal cord often makes it difficult to biopsy the tumor.

Dr. Friesen: Dr. Tice, would you tell us about the irradiation therapy of this tumor?

Dr. Galen Tice (Radiologist): It is my impression that radiation of carcinoma of the larynx is progressively becoming more acceptable to laryngologists. We can expect a high percentage of cures of the early carcinoma of the larynx with radiation. Occasionally we see the hopeless, far advanced cancer of the larynx receive radiation with results beyond expectation. I am particularly impressed with the results to be obtained with super voltage in our institution, this means cobalt therapy. We can deliver a tumorcidal dose of 6,000 or 7,000 rads to the larynx without damage to the skin and in most cases without damage to the deeper normal structures. If nodes are present, we hardly expect a cure but we have seen regression of cervical nodes over a long period of time. It is my impression that a time will come when very few laryngectomies will be performed for cancer of the larynx.

I would like to ask Dr. Kirchner what the difference in his five-year survival is when simple laryngectomy is compared to laryngectomy plus radical neck dissection.

Dr. Kirchner: I can only say that the over-all five-year survival is 10-15 per cent better when the radical neck dissection is done, and when no lymph node involvement is found by the surgical pathologist the over-all survival is approximately 50 per cent better.

Dr. Friesen: Then some of these individuals need not have had a radical neck dissection.

Dr. Kirchner: Perhaps not, but the statistics indicate a slightly better five-year survival.

Dr. Friesen: How do you account for this increased survival rate without lymph node involvement?

Dr. Kirchner: It is likely that a good many of those reported as having no lymph node involvement do have tumor-bearing nodes which are removed and, therefore, a recurrence is prevented. When serial sections of the lymph nodes are studied the incidence of lymph node metastases increases.

Dr. Friesen: Dr. Tice, does the voice remain normal following irradiation treatment of these tumors?

Dr. Tice: Yes, in most cases it does. Also in the last few years we can offer cobalt irradiation which allows us to deliver a greater dose to the tumor without producing the degree of changes in the contiguous tissues that we associate with x-ray irradiation.

Dr. Kirchner: Occasionally irradiation is combined with surgery. Occasionally surgery is necessary to treat the complications of irradiation such as fibrosis and constriction of the larynx or long standing intractable edema following irradiation.

Dr. Friesen: In the case of laryngectomy the physician must provide for rehabilitation of the patient in order that he might compensate for the loss of the functions of the larynx. Is that true?

Dr. Kirchner: That is true. This is a very serious operation and it must be fully explained to the patient in order that he will understand what the effects of the laryngectomy are and the reasons why he must be treated in this manner. He not only loses the capacity to speak but cannot cough and may have other difficulties with the airway. Many can be taught "esophageal speech." In other words they are taught a new way to make noise with which they can form syllables and words as they have always done. Others in this age group have associated diseases such as difficulty in hearing.

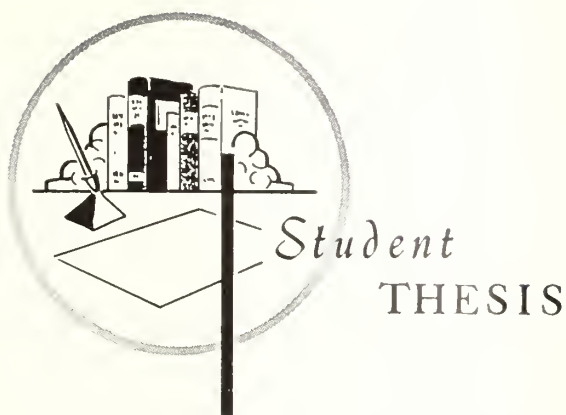
Dr. Friesen: What percentage of people having total laryngectomy learn esophageal speech?

Dr. Kirchner: This varies a great deal and depends entirely upon the people who are attempting to teach them. Here at the medical center we have excellent help and most of our patients who are capable of esophageal speech learn to use this method of phonation.

Dr. Friesen: Dr. Boley, do you think there is any connection between the fact that this man was a heavy cigarette smoker and his carcinoma?

Dr. Boley: Wynder et al. at the Sloan-Kettering Institute with a matched control study concluded that both tobacco and alcohol consumption were associ-

(Continued on page 403)



Pseudocyesis: A Review of the Literature and Presentation of Two Cases

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PSEUDOCYESIS, a condition in which a woman firmly believes that she is pregnant and develops many of the signs and symptoms of pregnancy, is an entity which was recorded as far back in history as Hippocrates. In reviewing the literature on this subject it became apparent that relatively little work has been done within the obstetrical and psychiatric fields in evaluating this interesting disease. The purpose of this paper is to present this subject not only in the light of present day thinking but in a historical perspective as well.

Until 1823 the most commonly accepted term for this entity was false pregnancy. In 1823 Dr. John Mason Good coined the term pseudocyesis from pseudo, meaning false and kyesis, meaning pregnancy. The earliest known recorded cases date to 300 B.C. when Hippocrates is said to have observed this phenomenon in 12 women. Many interesting cases of pseudocyesis are described in the early literature. One well known case is that of Mary Tudor, Queen of England from 1553-1558. She thought that God had not given her a child because of her lack of harshness among heretics (Daley). During the course of her supposed pregnancy she experienced nausea and vomiting and enlargement of the abdomen, firmly convinced that she had finally become pregnant. The wife of the French president in 1668 is described as being wrongly thought to be pregnant for more than a

year by many physicians, surgeons and midwives (Bivin). A 64-year-old religious prophetess, Joanna Southcott, in 1814 thought she was pregnant by the Holy Spirit and is said to have disappointed one hundred thousand people when the second coming of the Messiah did not eventuate at the expected time (Daley). Nathalie, the Queen of Serbia, in 1900 experienced amenorrhea, nausea, salivation and movements of the intestines which she mistook for movements of the fetus. No baby was born.

Incidence

By far the most extensive work on the subject was done by Bivin and Klingler whose book, *Pseudocyesis*, was published in 1937. These workers compiled all reported cases of pseudocyesis until that time and studied them from many aspects. Four hundred forty-four cases were reported. Bivin found that pseudocyesis tended to occur most often in those women recently married, those approaching menopause, and in those where illicit intercourse had occurred followed by a fear of pregnancy. Seventy-three per cent of the cases were in the active reproductive period between the ages 15 and 39 years of age. Twenty-two per cent were in the menopausal period from 40 and 59 years of age. The youngest reported case was age 7, the oldest was 79, and the average age was 33 years. Eighty-three per cent of the patients were married at the time of pregnancy. Eight patients were widows. Of the 305 cases with reported marital status, 21 patients were in their second or third marriage. No good correlation to social status could be found. One hundred sixty-two cases were reported to have

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Kent is now a student flight surgeon at the School of Aviation Medicine, Pensacola, Florida.

had children and in only 94 cases were there definite reports of no children. Twenty-three cases had had pleural false pregnancies.

It is interesting that no Negro cases of pseudocyesis were reported by Bivin. In the largest series of cases presented since Bivin's book, Fried (1951) and his workers reported 27 cases, 23 of whom were Negroes. They ranged in ages from 18 to 36 with the majority in their twenties. In Fried's study 26 patients were childless with a wish factor predominant during the survey. All were married and 16 had had prior pregnancies. Only one had a living child.

Symptomatology

The most common symptom reported in pseudocyesis is that of a menstrual disturbance. Of the 444 cases reported by Bivin, 274 cases gave a documented menstrual history. Of these 54 per cent were amenorrheic, 30 per cent had irregular or scanty menstrual periods and only 19 per cent had regular periods. This correlates well with Fried's findings in which 26 of 27 patients had menstrual irregularity, 19 of whom were hypomenorrheic and seven amenorrheic.

The most evident symptom of pseudocyesis is that of abdominal enlargement. Of particular significance is that the enlargement increases at a growth rate approximating the growth of the fetus in normal gestation. The shape of the abdomen follows no particular pattern, has a fairly uniform distribution with no effacement of the umbilicus as seen in true pregnancy (Bivin).

Underhill, in 1877, stated, "In the majority of cases of pseudocyesis the false notion of pregnancy is based upon movements which the disordered mind recognizes as quickening." Fetal movement was mentioned specifically in 204 cases recorded by Bivin and in 22 cases by Fried. This symptom differs from that found in normal pregnancy in that it usually occurs unusually early, is more severe, shows atypical location and continues longer than in the normal pregnancy. Fried described the movements as a quivering pulsating sensation usually noted in the left upper quadrant of the abdomen. He also mentioned two cases in which fetal heart tones were heard. Bivin also mentions this erroneous finding.

Breast changes similar to that seen in true pregnancy were described in 173 cases by Bivin and in 22 by Fried. These changes consisted of one or several of the following: enlargement, tenderness, secretion of milky or cloudy fluid, venous engorgement, enlarged Montgomery's tubercles and enlargement plus darkening of the areola. Ten of Fried's patients with breast changes were nulligravidas. Simpson (1871) had seen colostrum globules with the microscope "as distinctly as they were ever seen in a case of true pregnancy."

Gastrointestinal symptoms are also reported of which typical morning sickness with nausea and vomiting is the most frequent. An increase in appetite and constipation are also frequent findings. Weight gain according to Fried is usually greater than in normal pregnancy.

Labor was reported in 138 cases studied by Bivin and occurred when the duration of pseudocyesis was seven months or more. It occurred in both multiparas and nulliparas patients. It varied in its intensity but in many cases had the typical location and character. Several patients reported "bloody show."

In 1811, DeWees, in comparing pseudocyesis to true pregnancy stated, "The menses are generally suppressed in both cases; if they sometimes appear, it is but in very small quantity, just a show, and no more. Nauseas, disgusts, etc., accompany a false pregnancy as well as the true; the belly augments insensibly; but, according to some authors, that augmentation is more apparent in the first months, than in a good pregnancy; which however is not so constant as to allow us to draw the smallest conclusion from it. The breasts sometime secrete a sort of milky humor, which adds its support to the other symptoms; and internal movements which the women of the greatest experience take for the motions of the child, confirm them in the idea that they are really pregnant. All these symptoms may also manifest themselves, though no species of pregnancy should exist, as I have observed in several women."

Physical findings of the uterus and cervix are also described, uterine conditions being mentioned in 138 cases by Bivin. In his series 104 patients had normal uteri and there was enlargement in 33 others. Fried describes 11 patients with uterine enlargement. In 30 cases where cervical conditions were reported by Bivin, 23 were normal and seven revealed a short or softened cervix. Fried describes cervical softening in 19 of his patients but points out that in none of his cases with uterine or cervical changes were there changes typical of any stage of pregnancy.

The duration of symptoms varies considerably, but in Bivin's study 43 per cent of 331 cases giving the duration of pregnancy had symptoms for nine months. Of these, 36 cases had definitely not been pregnant previously. Simpson thought that the symptoms could last for years. One of the longest recorded cases is that described by Montgomery (1857) who tells of a lady who consulted Duputren declaring that she was 18 years pregnant and was told by this distinguished surgeon to swallow a private tutor for her son!

Etiology

Since the time that Hippocrates observed the phenomenon of pseudocyesis, men have attempted to

explain the etiological factors responsible for this disorder. In discussing the etiological basis for this disease this writer feels that a historical approach leading to present day theory is not only interesting but rewarding as well.

When Hippocrates observed his 12 cases of pseudocyesis in 300 B.C. he is quoted by Bivin as stating: "When the matrices taking in the air coming from the stomach which supplies it, swell, then the women believe themselves pregnant: or else, if the menses not flowing, accumulate in the matrices, and stay suppressed for some time, there is continual flux in the matrices, sometimes with air coming from the stomach, sometimes from the effect of the heat, and then again women imagine they are pregnant seeing that the menses are suppressed and the matrices swollen."

William Harvey, according to Rutherford, suggested that both the brain and the uterus were filled with an "imagination (phantasm)" brought about by coitus or a conception without result. Quoted by Montgomery, Harvey stated, "The 'conception,' therefore, of the uterus, or the ovum, resembles, at least in some sort, the conception of the brain itself, and in a similar way does the 'end' inhere in both." Quoted further, he stated, "Whosoever, I say, ponders these things, will not, I think, regard it as absurd or monstrous, that a woman should be impregnated by the conception of a general immaterial 'idea,' and become the artificer of generation."

During the early 19th century there was considerable thought that coitus, orgasm, etc., set into play a nervous condition which led to changes in the tubes and ovaries. Girard in 1801, as quoted by Bivin, wrote: "The impulse given to the uterus by coitus sufficed to give birth to signs of false pregnancy, although the sperm had not been absorbed by this organ. The seminal fluid gives life particularly to the uterus, which reacts on all the systems as if she had swelling in the cavity."

Referring to pseudocyesis, Good wrote in 1936, "There are two periods during the active power of the womb in which it is peculiarly irritable and these are at the commencement and at the final termination of the catamenial flux. And hence it sometimes happened at the last period, from some unknown excitement, although generally, perhaps, the increased erethism which, in consequence of such irritation, accompanies the conjugal embrace, that it becomes sensible of feelings and communicates them to the stomach, not unlike what has formerly sustained in an early stage of impregnation, and a caternation of actions having thus commenced, every link in the chain that accompanied the whole range of former pregnancies is passed through, and as accurately imitated as if there were a real foundation for them. This illusory feeling, however, sometimes dies away gradu-

ally at the end of three months, but usually runs on to the end of the ninth, when there is occasionally a feeble attempt at labour pains, but they come to nothing and the farce is gradually, and in a few instances suddenly concluded by a rapid diminution of the abdominal swelling, and a return of the uterus to its proper size."

According to Rutherford, Schmitt in 1857 was the first to consider the subject on a hysterical basis, being due to the effect of excited imagination. Quoting Schmitt: "It is as if impregnation proceeded from the brain, a matter which can only be comprehended, and that obscurely, from the intimate polar conception (sympathy) known to exist between the cerebral and sexual systems, together with a degradation (depression) of the cerebral into the depths of the ganglionic system; together with a magnetic effort on the part of the latter to break through the limits of individuality (or those allotted to it)." From these explanations by Schmitt and Harvey, Montgomery suggested that this condition be designated as cerebral pseudo-pregnancy.

Gooch in 1859 thought that women with sickly constitutions were subject to obstructed menstruation and that in these cases the puzzling assemblage of symptoms was the result rather of mental agitation than of sexual intercourse (Bivin).

Underhill defined pseudocyesis as "that mental aberration in which a woman falsely believes herself pregnant, and frequently persists in this false belief contrary to reason and to the most positive statements of competent medical counsel." He stated, "It cannot be said in any case that the woman is of sound mind." He thought for the most part that the condition was a delusory phenomenon resulting from a false interpretation of bodily sensations occurring for the most part in the abdominal viscera.

Until Simpson's writings in the 1870s, it was generally thought that the enlargement of the abdomen was due to the retention of large amounts of gas within the bowel. Simpson disproved this theory of intestinal distention by passing a rectal tube while the abdominal swelling was subsiding during induction of anesthesia (Daley). No gas escaped. In explaining the phenomenon of abdominal enlargement Simpson stated, "I believe that the phenomenon most probably depends on some affection of the diaphragm, which is thrown into a state of contraction and pushes the bowels downwards into the abdominal cavity" (Simpson 1871). His theory was well supported by Meigs who stated in his *Diseases of Women* (1879), "It is against physiology, against pathology, and it flies in the face of common sense, to talk of a collection of wind distending a material like the womb. Air is too subtle, to remain quietly locked in a bottle that has no cork in it" (Rutherford 1941).

McArdle in 1886 described spasmodic muscle which could simulate an intra-abdominal neoplasm and be mistaken for that regular increase and that complex of symptoms found in normal pregnancy. He did not think that the diaphragm was the seat of the affection in the beginning of pseudocyesis but that "hysteria in the adult female is the great predisposing cause of phantom tumor and the commonest of its affection is intestinal tympanites."

Amesbury (1891) stated, "the condition is a pure neurosis, based on the same principles as is hysteria, and in my own words for this affection, it is veritably a 'pregnancy of the brain,' thence traveling through the sympathetics, and finally locating in the organs of generation, and thus setting up the long desired for and dwelt upon diseased condition, 'spurious pregnancy' " (Bivin).

Meynet of Marseilles (1907) thought pseudocyesis was a manifestation of hysteria and felt that support for his idea came from Babinski's definition of hysteria; "A psychic state which renders the subject capable of autosuggestion." He also thought that the determining cause of nervous pregnancy resided in the special mentality of the hysterical patient, mentality under the domination of a fixed idea (Bivin).

Bodenheimer (1929) was impressed with the fact that in the cat and rabbit ovulation occurred ordinarily with coitus and that pseudocyesis could be induced as a result of intercourse with vasectomized males. In explaining this phenomenon, he has divided the female psyche, or soul, in animals and men into three subdivisions which he has classified under the law of inhibition, the law of vulnerability and the law of pansexualism. He grouped all these under the law of the "Three-fold Cause." Quoting his article: "The effect of the law of the three-fold phase of origin. The first phase, which is subject to the conscious will, is the conscious wish or fear to have a child. Continuous impulses of this kind produce the cessation of menstruation, and by this cessation retrogradually new impulses of the victorious will cause new enforcements of the originally affected thought.

"The second phase proceeds gradually from the conscious to the unconscious. As in sport, to use the excellent example of Kretschmer, at first consciously a balance, an extremely complicated coordination of muscles, is maintained and then gradually the stage of unconscious ability enters, in the same manner the conscious thought disappears by and by, and the second unconscious, self-conscious hypobul stage results. The continuous impulses which inhibited menstruation unconsciously relieve primitive stimuli on the mammary glands, on the genitals and on the whole abdomen, bloating the intestines and anatomically simulating pregnancy.

"In the third phase, the pelvic tract functions auto-

matically, like a reflex apparatus, corresponding to the reflexes described by Pavlov and studied in their relation to gynecology by Walthard."

Bodenheimer divided pseudocyesis into two great groups. In the first group the impulses come from the outside stating that a wrong diagnosis has found fertile ground in the amenorrheic woman in producing pseudocyesis. In the second group the impulses come from within. "Mostly they are desires, less frequently fears which become fixed and cause the multitude of organic changes seen in pseudocyesis."

Bivin considered two main approaches to the etiology of pseudocyesis. The first was that of a psychological approach which includes the intense desire for, or fear of having a child which may cause emotional disturbances affecting the menstrual cycle. The intense desire for a child made up the largest number of cases in his series who experienced pseudocyesis. Fear of pregnancy concerned those young girls who had exposed themselves to conception or those who had been indiscreet. He found that these women were very impressionable and suggestible, especially along the line of fear or wish for a child.

Closely tied with this psychological approach are physical etiological factors which constitute Bivin's second approach. Certain physical abnormalities such as fat or amenorrhea may suggest pregnancy in a patient receptive to this suggestion and the idea of the pregnancy installs itself as a result of the lesion. Included here would be organic lesions of the uterus or adnexa such a lutean cyst which could be the pretext and point of departure for the false pregnancy. Also included would be gas or flatus causing distention, feces, retention of urine and according to Bivin certain breast changes occurring in neurotic women. In the following list are found the factors and number of cases reporting such factors as found by Bivin:

<i>Psychogenic Factors</i>	<i>No. of Cases</i>
Wish	66
Hysteria	34
Fear	21
Neurotic symptoms	13
Suggestion and autosuggestion	9
Self punishment	2
Indifference	2
Something to be gained	4
Rather not have a child	1
Delusion	5
<i>Physical Factors</i>	
Fat	60
Gas-flatus	35
Menopause	13
Feces	6
Urine	5
Endocrine	3

Bivin pointed out that in both types the full development of the syndrome is quite evidently psychological rather than physical. Quoted by Greaves (1960), Bivin hypothesized that "pseudo-pregnancy, a normal state in the menstrual cycle, become pseudocyesis, an abnormal state, because the hormones which regulate this phenomenon are thrown out of balance by physical and emotional changes or a combination of these two factors."

Moulton (1942) in reviewing the experimental work done in determining the etiology of pseudocyesis found that this entity could be induced in rats and mice by infertile coitus, mechanical or electrical stimulation of the cervix, electrical stimulation of the head and depressants applied to the nasal mucosa. In explaining ovulation and false pregnancy following coitus in the rabbit, she described the mechanism was probably that of sexual excitement, not specific genital stimulation, which "acts on the pituitary through the autonomic system with a resulting endocrine effect on the ovary causing a persistent corpus luteum." In the human she considered a suppression of ovarian activity by the pituitary as illustrated in a 17-year-old girl with pseudocyesis who had low estrogen assays and very high gonadotropic assay levels. Steinberg (1946) in presenting evidence of the effect of the psyche on the endocrine system found, in contradistinction to Moulton, that *both* gonadotropins and estrogen levels were high. Brown (1947) found that a persistent corpus luteum maintained by chorionic gonadotropin could cause pseudocyesis.

As suggested by the preceding paragraph it is evident that since Bivin's work interest in the subject has centered on a psychic-endocrine relationship which might explain the findings in pseudocyesis. Certainly one of the most complete studies on the subject in the last 20 years is that of Fried and co-workers. In his series of 27 patients he studied each case from a psychiatric and endocrinological point of view whenever possible. It should be recalled that 26 patients in this group were childless. Fried found in these patients that the syndrome frequently followed a situational stress that the patient believed could be helped by a pregnancy. In this series the "pregnancies" seemed to be subconsciously motivated so that the patient could achieve one of the following: secure husband's wavering affections and bolster a faltering marriage, prove the ability to conceive and become a complete woman, achieve parity with other women, especially close friends, obtain a child as a play thing and companion, or, lastly, affect self punishment (Fried). Psychiatric studies by Fried, *et al*, revealed low frustration tolerance, pronounced insecurity, difficulty in interpersonal relations, an inability to resolve tensions and a distaste for pregnancy. The patients were prone to accept folklore and to

have aberrant sex histories and predisposing basic personality defects. These workers thought the basic psychological mechanism appeared to be a conversion of anxiety arising from the conflict between (1) innate sexual drives plus stress of present life situations in favor of pregnancy and (2) folklore, early teachings and experiences that had negatively conditioned them in regard to reproduction.

Fried was impressed by earlier findings by other workers of a persistent corpus luteum in the rat and rabbit during pseudocyesis and reports of a corpus luteum cyst or persistent corpus luteum in women with pseudocyesis at the time of operation for supposed ectopic pregnancies or tumors complicating the present "pregnancy." He and his workers undertook an extensive endocrine study of their series of patients. Quoting Fried, "By means of hormonal assays, vaginal smears and endometrial biopsies, it was possible to establish the following hormonal pattern as a basis for the mechanism of pseudocyesis. These women apparently had persistent luteinization of the ovaries as indicated by (1) varying degrees of secretory (progesteronic) activity in the endometrium, (2) presence of normal estrogens in the urine and good estrogenic effects on smears. This luteinization effect appears to be the result of ovarian stimulation by the pituitary luteotrophic hormone, as indicated by its presence in the urine of five patients tested. This could account for many of the clinical manifestations, such as menstrual disturbances, the enlargement and tenderness of the breasts, darkening of the areola, softening of the cervix and enlargement of the uterus as well as breast secretion." It is also significant that these workers found abnormally low levels of FSH in 24 of their patients.

According to Fried one must assume that a psychic factor, namely a conflict that appears best solved by conversion into "pregnancy," is capable of affecting the pituitary possibly by utilization of pathways from the cortex through the hypothalamus to the anterior pituitary gland causing the release of luteotropin and suppression of the follicle-stimulating hormone. The initial menstrual disturbance then would give a reality factor on which "pregnancy" could be further developed through subconscious stimulation of the symptoms of pregnancy. Certainly, from this work it would seem that the etiological agent was a psychogenic factor which, mediating through the hypothalamus in some way, caused a disturbance in the regulation of gonadotropic hormone with persistent corpus luteum activity and resulting symptoms and signs of pseudocyesis. Fried thought these factors were more closely related to conversion reaction and hysterical phenomenon than to the deeper, more persistent types of psychosomatic disturbances.

Bressler (1958) stated, "In the typical case of

pseudocyesis the pregnancy fantasy is conscious and usually frankly expressed both verbally and somatically. Whatever other psychodynamic meaning the condition might have, in pseudocyesis the wishful aspect prevails over other aspects such as fear and punishment." The cases which he described differed from pseudocyesis patients in that the pregnancy fantasy was unconscious or preconscious and revealed itself in somatic symptoms which the patients themselves did not consider as symptoms of pregnancy. He thought that these somatically expressed unconscious pregnancy fantasies represented attempts on the part of an essentially archaic ego (1) "to compensate for loss of sources of gratification or oral receptive dependent needs, and (2) to deal with the intense, primitive hostility aroused by the frustration of the same needs."

Such have been the trends in etiological theories for pseudocyesis. Certainly not all the questions have been answered and not until more cases are closely studied psychiatrically and physically will more light be shed on causative factors. As Kernodle (1959) points out, "One thing is certain: pseudocyesis is one of the most convincing examples in medicine of the influence of psychologic processes upon physical structure."

Diagnosis

The problem of distinguishing pseudocyesis from true pregnancy at first glance would appear simple with present day techniques. Upon closer inspection of the problem, however, there are facets which even a well-trained, conscientious physician may overlook. Not the least of these problems is the fact that many of these patients may be reluctant to have an examination. Certainly there is no substitute for the auscultation, percussion and pelvic examination described by Simpson; even with present day laboratory tests, an uncooperative patient may obviously hinder a correct diagnosis.

Much can be learned from early writers with respect to correct diagnosis. DeWees wrote: "Touching is the only method which can lead us to the knowledge of the state of the woman; but it must not be limited to the mere application of the hands on the woman's belly, which might also, in these doubtful cases, lead us into error. I have known women who have been pronounced pregnant from touching the belly, and who were treated as such, and yet were not pregnant at all in any way: and others who had been assured of the contrary, and nevertheless were delivered some time afterward.

"We ought to touch the woman according to the rules already laid down, to ascertain the volume of the uterus; for it is the state of the viscus which must

guide our judgment. When it is large enough to make us presume a pregnancy of four or five months, we must agitate it a little to excite that motion of the child, known by the name of rolling. The absence of the motion, especially at the period when no one can mistake it, joined to the volume of the uterus, characterizes a false pregnancy, when we are certain at the same time that that viscus is not affected by any disease. But of what nature is that false pregnancy? This is the most difficult to determine."

As Fried points out, the majority of errors are due to failure of the physician to completely examine the patient, to evaluate the findings, and to consider the possibility of pseudocyesis when atypical symptoms present themselves. Menstruation and its irregularities may complicate the diagnostic picture and it should be remembered that menses are seldom regular in cases of pseudocyesis. One important sign is universally emphasized, that is, the umbilicus is not the pouting one of gestation but is the depressed umbilicus of the non-gravid state.

One of the difficult aspects of this syndrome is that early pseudocyesis may be superimposed on an organic lesion such as hydatidiform mole or a chorioepithelioma and a false positive pregnancy test may result. This emphasizes the importance of careful patient follow-up. Certainly a false diagnosis of pregnancy in these cases, as in other cases, will only potentiate and enforce the psychogenic factor or factors already present.

Those patients presenting with an atypical gestation course and in whom fetal heart tones are equivocal or absent, and in whom pseudocyesis is suspected should be given a careful psychiatric examination in order to determine the underlying cause for their condition. Careful consideration should be given to their age, menstrual history, age of spouse, compatibility with their spouse, early sex knowledge and experiences, and attitudes toward pregnancy.

Certainly in those patients with late pseudocyesis who are obese and in whom physical examination of the pelvis and abdomen is difficult, x-ray examination would be most conclusive in demonstrating the presence or absence of a fetus. However, use of this diagnostic tool probably reflects an incomplete patient follow-up by the attending physician.

Treatment

Many different modes of therapy have been used in this disorder, the most frequent being that of convincing the patient she is not pregnant. Bivin describes 56 cases where this was the only form of treatment and thought that persuasion was the most effective method. Underhill (1877) stated, "The most positive assurances of the medical adviser, based

upon proper examination are all that is needed." This concept was supported by Bodenheimer who stated, "The bruits, the percussion of the intestines against the abdominal wall simulating fetal movements, the organic changes, all disappear if we succeed in convincing the woman that pregnancy does not exist."

Bivin in compiling his series of 444 cases found that multiple methods had been tried. He found that hypnosis and suggestion had been very effective. Anesthetics have classically been used for diagnostic purposes and Bivin found that it had been used successfully in 50 cases in diaphragmatic types of pseudocyesis. He found that in 50 cases drugs such as morphine, opium and various tonics had been used. Underhill thought that medication was sometimes advantageous especially in hysterical cases and found some of these patients to be benefited by such drugs as assafelida, valerian and more particularly the bromide of potassium. Other methods described by Bivin included purgatives, curettage, massage of the abdomen, use of a pessary, catheterization, diversion of attention and re-education. He also described 10 cases of Caesarian sections done erroneously, which provide adequate proof of a non-pregnant state.

Underhill found that pseudocyesis occurring at the climacteric was as a rule more difficult to treat successfully than in any other period. He stated, "These patients still cling to the hope that they have sexual capacity, still cherish a desire for pregnancy, and so fondly do they sometimes cling to such hope and desire that they not only believe themselves pregnant, but even impose upon the medical attendant."

Fried *et al*, thought that bluntly telling the patient that she was not pregnant, which had been the usual therapeutic procedure, was to be condemned. In his series it was of no therapeutic value since the conflict factor remained uncomprehended and unaltered. His therapy was not directed at revamping ingrained personality factors but toward making the patient recognize the conversion mechanism and better resolve the factors producing the anxiety. He found that short term psychotherapy consisting of rapport, discussion, interpretation, reassurance and support was quite effective. He found that those patients with limited insight after psychotherapy required direct evidence such as the onset of menses or the demonstration of empty uteri to finally convince them. This was provided in his series by adjunctive use of endocrine therapy or uterine curettage. He and his workers found that effective therapy was followed by the dissipation of the pseudocyesis syndrome, by a return of normal cyclic menses and hormonal patterns and in four of eight infertile nulligravidas by subsequent true pregnancy.

If we accept the theory that pseudocyesis has as its

basis an unlying psychogenic cause, a theory which has considerable support, then Fried's method of treatment should be the most rational approach in treating this disorder. Certainly, if patients fail to respond to this mode of therapy, an organic lesion in the pelvis or pituitary should be investigated and the source for menstrual irregularity carefully evaluated.

Presentation of Two Cases

Case 1: Mrs. H.

The following case demonstrates the necessity of careful patient follow-up and the results of an erroneous diagnosis of pregnancy.

This 28-year-old married white female presented to the K.U.M.C. OB antepartum clinic for the first time on January 5, 1962 with a last menstrual period of October 5, 1961. She was gravida 0, para 0. In November 1961 she noted pelvic cramping of two weeks duration followed by three days of heavy vaginal bleeding. She was seen in the emergency room of another Kansas City hospital where she was told that she was six weeks pregnant and was having a threatened abortion. She was treated by bed rest at home for six or seven days and subsequently noted no further vaginal bleeding or cramping. She was followed during the remainder of her course in the K.U.M.C. antepartum clinic. She had two episodes of morning nausea in January and February. She is reported to have felt movement toward the end of February, 1962. On April 23, 1962 fetal heart tones were thought to be audible and were heard and recorded during the remaining course by the clinic staff residents. Fundal height was measured and increased during the course of her clinic visits following a pattern not unlike that of a true pregnancy. She showed early excessive weight gain, gaining about 20 pounds during the first two months of her pregnancy. She was started on a 1500 calorie low salt diet and her weight remained stable subsequently. Her expected date of confinement was July 13, 1962.

Lab work during her clinical course:

- Urine—negative
- Hgb (grams)—13.5
- Hmct—44 per cent
- Serology (VDRL)—negative
- Blood type—A rh neg
- Pap smear—negative
- Chest x-ray—negative
- Pregnancy test—not done

On July 12, 1962 the patient presented herself at the K.U.M.C. delivery room expecting to have her baby and complaining of cramping low back pain. An examination at that time revealed that she was not

pregnant, much to the patient's consternation. She was admitted to the hospital to evaluate the cause of her amenorrhea. A past history of an appendectomy and right salpingo-oophorectomy and a family history of diabetes were obtained. Physical examination at that time revealed an obese white female but the rest of the examination was essentially negative. Pelvic examination was entirely normal. Laboratory examination revealed a normal hemoglobin, hematocrit, fasting blood sugar and two hour post-prandial. Chest and abdominal x-rays were normal. A PBI was 5.6 micrograms per cent. A 24-hour urinary excretion of 17-ketosteroids and 17-ketogenic steroids revealed 18.4 mg and 29.3 mg respectively, both elevated. A positive ortho test for pregnancy was obtained suggestive of an early pregnancy and hence an endometrial biopsy was not obtained. The patient was given 100 mg progesterone I.M. with intentions of seeing her in two weeks to see if withdrawal bleeding would occur.

Mrs. H. returned to the GYN clinic on July 27, 1962 stating that she had had some slight spotting on the 21st and 22nd of that month. She was instructed at that time to take diethylstilbesterol 0.1 mg for 20 days and 50 mg progesterone on the 20th day in the attempt to begin menstrual cycling. She did not return for follow-up till November 9, 1962. She stated at that time that she had one and a half days of spotting with slight cramps in September. She bled one and a half days in October and had two days of good menstrual bleeding beginning November 9, 1962. Following an interview with this examiner she was persuaded to have another ortho pregnancy test performed. This was again positive on December 1, 1962. She later developed early morning nausea and vomiting and was referred back to the OB-GYN clinic at K.U.M.C.

Mrs. H. was a naive, uneducated individual, one of nine children in a family whose father was a laborer. She left home at the age of 15 to get married. This apparently was a very unhappy marriage. Her husband drank heavily, ran around with other women and apparently was very jealous and demanding of his wife. At the beginning of this marriage, Mrs. H. states that she wanted a baby very much but was told after five years of marriage that she could never have children. Following ten years of marriage, Mrs. H. was divorced from her husband in July, 1961. She was married the following month to her second husband, a man eight years her junior. This has been a very happy marriage in all respects, but she denies ever having really cared about having children since her marriage, even though her present husband has wanted them.

Of real significance in this case was that the patient didn't think she was pregnant until April, 1962.

At that time due to the clinic doctors' persuasion she was forced into believing herself pregnant and continued to believe this till the time of her supposed delivery. She bought maternity clothes during the middle of April and started wearing them shortly thereafter. She also bought baby clothes and began looking for a baby bed. A younger sister was pregnant at the same time and no doubt must have reinforced the pseudo-pregnancy Mrs. H. was experiencing. Mrs. H. stated that at the time of her admittance to the delivery room there was no doubt in her mind that she would have a child.

A psychiatric history was not significant except in revealing a person of rather low intelligence but certainly functioning at a capacity level. Certainly no evidence of a significant degree of psycho-pathology was found.

This case demonstrates the necessity for careful patient follow-up in a patient presenting with an abnormal pregnancy course. It also demonstrates the result of an incorrect diagnosis of pregnancy in a patient who is receptive to the idea of pregnancy.

Case 2: Mrs. W.

This 44-year-old married, Negro female, gravida 0, para 0, had been followed at the Kansas City General Hospital for about ten years with intermittent episodes of pseudocyesis. The most well documented evidence for these episodes was in 1961 and 1962. Her pseudo-pregnancy in 1961 was of eight months duration and was characterized by amenorrhea, breast enlargement, nipple pigmentation, abdominal enlargement, food cravings, especially fruit, morning sickness during the first three months and fetal movement felt on both sides of her abdomen at four months gestation. She wore maternity clothes during almost all of her course. In June, 1961, she was hospitalized at General Hospital for asthma during which time she was informed that she was not pregnant. A GYN consultant during this hospitalization stated, "We are not able to convince this lady after one to two years that she is not pregnant."

In 1962 the patient had another episode ending again in June after a gestation course of eight months. This episode was characterized by hypomenorrhea, breast enlargement, nipple pigmentation, abdominal enlargement, food cravings similar to 1961 and fetal movement at five months. Again she wore maternity clothes during most of her supposed pregnancy. In June she began to have rhythmical contractions in her abdomen and back and went to the hospital for her delivery only to be told after examination that she was not pregnant. She stated that she was very provoked with her doctors but the enlargement of the breasts and abdomen disappeared in a few days and she had a heavy period shortly thereafter. She has

since had regular periods with a fairly heavy flow.

This patient was a very unusual appearing woman when she presented for interview. She was dressed in a very childish dress, wore knee high thick white stockings and ankle high shoes. She seemed superficially gay even to the point of euphoria at times. Unfortunately her history was not too reliable but there were certain points of interest which should be pointed out.

From a social worker's research at General Hospital it was learned that the patient, Mrs. W., had attended in her early years a school for retarded children. Her father died when she was 18 years old and she lived with her mother till the latter's death in 1953. Following her mother's death, Mrs. W. lived alone until June, 1958, when she was married for the first time to a man 70 years of age. She states that since her marriage she would "love to have a baby of my own."

A psychiatric examination revealed some bizarre findings. She was a person of apparently below normal intelligence. Her memory was quite poor as she was very vague on dates of hospitalization, miscarriages and operations. She was unable to recall presidents, world wars, etc. Her orientation however was good. There was delusional content to her thinking. She thought that both of the above mentioned episodes of pseudocyesis had terminated by miscarriage both times of a set of twins. It is interesting in this respect to note that a twin sister died at birth. Other delusions were evident, mainly paranoid in nature, such as neighbors watching her, and her husband following her. These were hard to evaluate because these examiners questioned her reliability and seriousness, but at least marked ideas of reference were present. She described hallucinations, active now and in the past, which were primarily visual. These included such things as seeing snakes crawling on her bed and on the floor. The patient saw her mother walking around the patient's bedroom for a week

after the mother's death. She at times heard people calling her when no one was there. Depressive symptoms were also present but very difficult to evaluate.

Disorders of thinking, hallucinations and delusions suggested to these examiners that we were probably dealing with a schizophrenic who had possible underlying organic brain disease or mental retardation. Whatever her psychopathology, however, she certainly had a well documented history of intermittent pseudocyesis, which in at least the two episodes mentioned, disappeared when told she was not pregnant.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

Tumor Conference

(Continued from page 394)

ated with an increase in carcinoma of the larynx. The relative risk of carcinoma increased with the amount of tobacco used.

Dr. Kirchner: I would like to ask Dr. Boley how many carcinomas of the larynx he has seen in non-smokers.

Dr. Boley: I do not know the number for this hospital, however, in Wynder's reported series one case of carcinoma of the larynx in 207 cases was in a non-smoker.

Dr. Kirchner: I would like to cite one last study in regard to the etiology of this carcinoma. In one series of cases 18 per cent of those surviving their carcinoma of the larynx five years or more developed a second carcinoma, usually a bronchogenic carcinoma.

Dr. Boley: We have several examples of this fact in our own files.

Reference

Wynder, E. L., Bross, I. J. and Day, E.: A study of environmental factors in cancer of the larynx. *Cancer*, 9:86-110, 1956.

MERCK SHARP & DOHME POSTGRADUATE PROGRAM

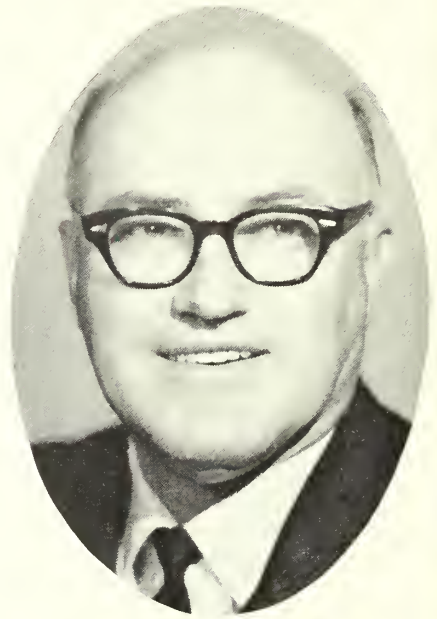
The Merck Sharp & Dohme Postgraduate Program has been established to facilitate postgraduate medical education. The program supplies funds to medical societies, hospitals, medical schools, educators and physicians for projects that are designed to help the practicing physician keep abreast of the rapid changes and advances in medicine. The selection of subjects and speakers remains with the applicant. For specific details, please write to the Director of Professional Relations, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pennsylvania.

The President's Message

DEAR DOCTOR:

Communication between ourselves and the dissemination of information is at times extremely difficult. This is borne out by the trouble we have with certain of our programs, such as welfare, the insurance program, deferred compensation plan, etc. If it is true within the state then the problem is magnified when the AMA attempts to pass information on to individual doctors.

Realizing this problem, at the recent AMA convention in San Francisco, Dr. Annis suggested that some method be set up by which information from the AMA could be sent at once to all state medical society offices. He suggested the installation of a teletype or similar machine not only in the office of each state medical society, but in the offices of the larger county societies. This was taken under advisement by the trustees of the AMA and in my opinion was the most important single advancement which came out of the AMA session.



Sincerely,

John C. Mitchell, Jr.

President



Editorial COMMENT

Report on Actions of the AMA House of Delegates

Tobacco and health, human rights, physician-hospital relations, continuing medical education, the cost of medical care, the federal subsidization of prepayment plans and health insurance companies were among the major subjects acted upon by the House of Delegates at the American Medical Association's 113th annual convention held June 21-25 in San Francisco.

Dr. Donovan F. Ward of Dubuque, Iowa, vice president of the Association, was named President-Elect. He will become President at the June, 1965, annual convention in New York City, succeeding Dr. Norman A. Welch of Boston, who was installed at the inaugural ceremony in San Francisco.

The AMA 1964 Distinguished Service Award was won by Dr. Irvine H. Page, director of research of the Cleveland Clinic, for his investigation of cardiac, vascular and renal disease.

Final registration figures reached a grand total of 49,437, including 14,229 physicians.

Tobacco and Health

The House approved a strong stand on tobacco and health by calling cigaret smoking "a serious health hazard." This action was taken after the reference committee on Public Health and Occupational Health considered 10 resolutions and a Board of Trustees report on the subject and heard considerable testimony.

In adopting a four-point reference committee report, the House said "the American Medical Association is on record and does recognize a significant relationship between cigaret smoking and the incidence of lung cancer and certain other diseases."

It urged that programs be developed to disseminate vital health education material on the hazards of smoking to all age groups through all means of

communication. The House also recognized the contribution of the Surgeon General's Committee in its comprehensive report. And it emphasized that a joint committee of the AMA and the National Education Association already has adopted a resolution urging elementary and secondary schools to include programs on smoking and health in their health education curricula.

The House further recommended that the AMA pamphlet, "Smoking: Facts You Should Know," should be modified "in the light of accumulating knowledge."

Finally, the House said that the delegates and the Board of Trustees "should take great pride in the establishment of the research program on tobacco and health that is being carried out by the AMA Education and Research Foundation."

In adopting the report of the AMA-ERF the House called attention to the following statement:

"The Board of Directors of AMA-ERF and the Board of Trustees of the AMA were clearly aware of the possibility of criticism in accepting this grant (10 million dollars from several tobacco companies). But against that possibility they weighed the potential benefits to the public who will continue to smoke and concluded that the risk was insignificant by comparison. The only hope of minimizing the hazards of smoking lies in research which points to the course that the AMA as well as others must take."

Human Rights

On the major issue of human rights the House declared itself "unalterably opposed to the denial of membership, privileges and responsibilities in county medical societies and state medical associations to any duly licensed physician because of race, color, religion, ethnic affiliation, or national origin."

This action was taken after the reference committee had heard a detailed discussion and had considered four resolutions on the subject.

In addition, the House called "upon all state medical associations, all component societies, and all individual members of the AMA to exert every effort to end every instance in which such equal rights, privileges and responsibilities are denied."

The House also accepted a report from the Board on the liaison committees of the AMA and the National Medical Association. This report reviewed the history of the committees and noted that "great progress has been made voluntarily. More progress can reasonably be expected in the immediate future, especially if the committees are permitted to continue on a constructive, cooperative basis. This requires effort, but more importantly, good will and the desire to eliminate problems."

Physician-Hospital Relations

Conclusions and recommendations in a significant and extensive report on physician-hospital relations were adopted by the House. Prepared by the Council on Medical Service's Committee on Medical Facilities, the report stresses "the imperative need for the medical profession to assume responsibility for the quality, continuity, and availability of professional services and for the coordination of these services with the other essential supportive aspects of health care."

The report's recommendations are designed to serve as guidelines for physicians in meeting the problems involved in the changing patterns of care such as: appointment of salaried chiefs of staff; appointment of salaried heads of clinical departments; appointment of salaried directors of medical education; employment of salaried physicians for outpatient and emergency departments; use of salaried physicians to provide care ordinarily provided by interns and residents; and utilization of closed-panel prepayment medical care programs by hospitals.

The report also includes a review of the development of AMA's policy on physician-hospital relations, a study of the relation of policy to actual practice, and an investigation of the factors influencing change—including graduate education, medical finance, expansion of hospital functions and regulation of medical care.

Continuing Medical Education

Authorization was made by the House to establish an AMA-sponsored survey and accreditation program in continuing medical education. In the program attention will be concentrated on institutions and organizations offering courses rather than on individual courses, and appraisal of an institution's or organization's program will be carried out only at its request.

Eventually, approved institutions or organizations will be so designated in the Council's annual lists of "Continuing Education Courses for Physicians," and when all institutions which wish to list their courses have had the opportunity to be considered for approval, only courses of approved institutions and organizations will be included in the annual list. Programs will be surveyed by a Review Committee on Continuing Medical Education.

Cost of Medical Care

A four-volume report of the AMA Commission on the Cost of Medical Care was received by the delegates, and the House concurred with the Board of Trustees that the conclusions and recommendations of the Commission will be studied and a report will be made to the House for its consideration at the 1964 Clinical Convention.

The four volumes include a General Report on factors involved in medical care costs, a full report on "Professional Review Mechanisms," another on "Significant Medical Advances," and one on "Changing Patterns of Hospital Care."

In its report the Board said that the Commission "is aware that its efforts will not result in a magic reduction in the price of medical and hospital services. It does believe, however, that its study has produced a considerable amount of new and relevant information which will serve as a basis for better understanding by the public and the medical profession of this complex subject."

Reaffirmed the AMA policy favoring federal grants for "bricks and mortar"—funds for construction and renovation of medical schools, hospitals, related institutions, and mental health centers—but urged that the "advantages and desirability of multiple source financing be kept clearly in mind." The House also was informed by the Board that it is appointing a commission to conduct a broad study of the role of federal support of medical research.

Other Actions

—The House went on record as opposing federal subsidization of prepayment plans and health insurance companies, and it asked for an AMA study of the development of state programs which utilize prepayment plans of health insurance companies in the implementation of state programs of medical aid to the aging under the Kerr-Mills law.

—A proposal to poll all AMA members concerning compulsory Social Security for self-employed physicians was rejected by the House. In addition, the House concurred with the reference committee in opposing polls of the membership on issues of "great or even moderate importance" because the House members express the majority sentiments of

their constituents on all questions coming before the House.

—An expanded program on medical ethics was endorsed by the House. The program will be designed to educate physicians and the public on what medical ethics means to them and how medical ethics affects them. The Judicial Council, working with the Board of Trustees, will determine the means by which this expanded program is to be implemented.

—Approval was given to a change in the Bylaws to allow the House to set the hour and day of election of AMA officers at the Annual Convention. This was adopted early in the House session and made it possible to have the nominations on Wednesday afternoon and the elections on Thursday morning.

—A three-point communications program designed to improve the public relations position of the medical profession was endorsed by the House on recommendation of the AMA Committee on Communications. The program includes a redoubling of efforts by county and state societies, closer liaison with media personnel and prompt information to state societies on AMA news releases and testimony.

Miscellaneous Actions

In considering a wide variety of resolutions and reports, the House also:

Approved the creation of the Section on Allergy on recommendation of the Board of Trustees.

Approved a comprehensive inquiry of the causative factors for the sharp increase in syphilis and gonorrhea and urged the AMA to "take leadership in educational and research measures designed to control and eliminate syphilis."

Okayed a national conference on areawide planning of hospitals and related health facilities, to be sponsored under the auspices of the AMA.

Agreed to continue and broaden studies on the problems of unwed mothers, illegitimacy and other related matters and to develop positive preventive programs.

Supported a position statement on protecting children against physical abuse and called for legislative guidelines to the states relative to legislation on this matter.

Asked the Board of Trustees to investigate establishment of a wire communications system between AMA headquarters in Chicago and offices of state medical associations.

Referred to the Council on Medical Service a resolution condemning the practice by some hospitals of adopting constitutions which deny staff privileges to physicians not eligible or certified by specialty bodies or societies.

Agreed with the Board that a forum for representatives of national medical specialty societies and the

American Academy of General Practice be held on November 1, 1964, in Chicago.

Approved a resolution calling for the publication of the proposed nominees for standing committees (councils) of the House be submitted in advance of the Annual Convention, preferably in the House of Delegates Handbook.

Recommended that the Board of Trustees use the talents of Dr. Edward R. Annis, immediate past president, and other qualified spokesmen for medicine with appropriate remuneration.

Asked the Committee on Insurance and Prepayment Plans of the Council on Medical Service to consider a revision of simplified health insurance claims forms.

Recommended that the Board of Trustees approve the establishment of an ad hoc study on family practice as proposed by the Council on Medical Education.

Agreed with the change of name of the Council on Medical Education and Hospitals to the Council on Medical Education.

Requested clarification of the ethical and legal limitations of physicians participating in court-ordered, pre-trial psychiatric examinations.

Urged the AMA to continue its vigorous opposition to tax regulations discriminating against "professional associations" and "professional corporations," and its support of legislation which seeks to provide tax equality with business corporations for "professional associations" and "professional corporations."

Opening Session

Dr. Edward R. Annis of Miami, outgoing AMA president, told the special Sunday afternoon opening session that a greater effort is needed in the areas of continuing medical education and health education programs. He also urged state and county medical associations to bolster their paid executive personnel to help carry out local, state and national projects. Doctor Annis called for an increase in AMA dues and later the House referred the question of a dues increase to the Board of Trustees for study and for a report at 1964 Clinical Meeting in Miami. Honored at the opening session were the presidents of state and territorial medical associations and a number of special AMA guests from national organizations.

At the Monday session awards announced were the AMA Scientific Achievement Award to Prof. Rene Jules Dubos, Ph.D., of the Rockefeller Institute, New York City, and the Joseph Goldberger Award in Clinical Nutrition to Dr. William J. Darby of Vanderbilt University School of Medicine, Nashville.

Inaugural Ceremony

Doctor Welch, in his inaugural address Tuesday night, said that medicine must be united if it is "to serve the public in the future to the high degree that it has in the past." He stressed that American physicians must be "standing strong and firm with a heart and a conscience tuned to public need, with a respect for the rights and privileges of the individual, and with an abiding faith in our free competitive system of medical practices."

In keeping with Doctor Welch's address, "Unity in Medicine," presidents or their representatives from 29 medical specialty organizations were honored guests at the ceremony.

The Distinguished Service Award was presented to Doctor Page and the Scientific Achievement Award was given to Doctor Darby.

Wednesday Session

Speaking at the Wednesday session, Doctor Welch pointed up the growing alliance between medicine and research—an alliance rooted in truth, knowledge and the freedom to search them out. He called these "the greatest assets available for human development and human well-being." Doctor Welch also enumerated the important projects of the AMA in the past year such as mental health, continuing medical education, tobacco and health, and AMA-ERF, the Institute of Biomedical Research.

Election of Officers

In addition to Doctor Ward, the new president-elect, the following officers were named:

Dr. Carlton Wertz of Buffalo, vice president; Dr. Milford O. Rouse of Dallas, speaker of the House, and Dr. Walter C. Bornemeier of Chicago, vice speaker.

Dr. Robert C. Long of Louisville was re-elected to the Board of Trustees for a three-year term, and Dr. Alvin J. Ingram of Memphis was elected to a three-year term. Doctor Ingram replaces Dr. R. B. Robins of Camden, Arkansas.

Nominated and elected to the Judicial Council was Dr. Charles C. Smeltzer of Knoxville, Tennessee.

Named to the Council on Medical Education were Dr. William P. Longmire of Los Angeles, and Dr. William A. Sodeman of Philadelphia.

Elected to the Council on Medical Service was Dr. John Rumsey of San Diego, and re-elected was Dr. Willard A. Wright of Williston, North Dakota.

Dr. William A. Hyland of Grand Rapids, Michigan, was re-elected to the Council on Constitution and Bylaws.

Respectfully submitted,

L. R. PYLE, M.D.

C. W. MILLER, M.D.

Delegates from Kansas

COMMUNITY HEALTH WEEK

The second annual Community Health Week, sponsored by the AMA, will be observed October 18-24.

This program is planned to attract public attention to the achievements of medicine and public health during the past few decades, and point up the need for local responsibility in the development of community health facilities.

Some of the factors contributing to more healthful living include the development of modern hospitals, expansion of public health facilities, growth of health insurance programs, public awareness of good health practices, regular counseling with a family physician, the use of available immunizations, the avoidance of quacks and charlatans, and the recognition of the inadequacies of self-diagnosis and self-medication.

Community Health Week provides a good time to take stock of present health assets and public responsibility in making certain that the high standards of health protection and service enjoyed today will be adequate for the needs that will arise in the future.



Blue Shield

Electronic Data Processing Provides Potential For Increased Blue Cross-Blue Shield Service

CARL KRESIE, Topeka

(This month's Blue Shield article is the second of a series of three in which Blue Cross-Blue Shield Division Directors discuss aspects of their divisional activities which might be of general interest to Kansas physicians. Mr. Kresie is director of administration, Kansas Blue Cross-Blue Shield.)

Kansas Blue Cross-Blue Shield is now in the "Electronics Era." In fact, it has been for almost four years, since the installment of electronic data processing equipment in late 1960.

Often referred to colloquially as "mechanical brains," electronic data processing systems are in extensive use in nearly all large business firms throughout the nation, and most Blue Cross-Blue Shield Plans are in some stage of conversion to modern computer procedures.

Nearly always characterized by a period of stress in volume transactions and often a time of temporarily reduced processing efficiency, the conversion to electronics is nevertheless an essential step which cannot long be delayed in today's business operations if levels of service and performance are to remain competitive. This has proved as true in respect to the large scale prepayment of hospital/medical care as to any other form of industrial or commercial enterprise.

Why Electronics Conversion Took Place

The reasons lie in the diminishing effectiveness of

manual performance when faced with increased work load accompanied by related needs for record-keeping and statistical analysis.

In the early days of the Plans all daily transactions were recorded manually. It was relatively easy to bill subscribers, receive and credit dues, process case payments, and derive data needed to plot future progress by this method. As the Plans grew, volume increased beyond the point that it was economically practical to continue "pure" manual processing. Administrative procedures moved to a mechanical, or punched card, system to maintain clerical efficiency.

During the late '50's the Plans introduced new programs with a multiplicity of benefit arrangements and began using varied rating categories to better serve over-all public needs. In addition, enrollment began to approach one third of the entire population of Kansas. The result was a sharp increase in the number of membership transactions processed. This, coupled with the need to maintain adequate statistics on a stepped-up volume of information, brought Blue Cross-Blue Shield to realize that a compact and rapid means of storing and locating information was essential. Also needed were ways to quickly record, compute, and analyze what had become an enormous bulk of data. Thus, the decision to convert to electronics was made.

The first stage in Blue Cross-Blue Shield's electronic data processing program took place in 1960 when

RAMAC 305 (initials meaning "Random Access Storage System") was installed. This was a temporary transitional step. Basic records continued to be stored in files on punched cards, but processing speed and information storing capacity was expanded while the staff was provided time to become properly oriented to the new procedural approaches required by an electronics system. A little over two years later—in April, 1963—the Plans moved into full-scale computer processing when an IBM machine known as the 1401 was brought into use.

The 1401's capacity transcended that of any past equipment in Blue Cross-Blue Shield history. All important data—active or inactive—was now stored on magnetic tape, eliminating the need for space-consuming files and the clerical assistance required for their maintenance. In addition to facility and capacity of storage, two additional advantages were realized: first, the bulk of daily transactions could be machine processed; second, the potential for detailed, analytical studies which were not feasible under a manual filing system—due to the time demanded for locating and correlating data—was now within realization.

The initial transition to 1401 was in some ways hectic, but it was a temporary situation. Operations are running smoothly now, and on July 1 the 1401 was replaced by a 1460 computer—the same kind of machine except that it has a significantly greater processing speed which will allow approximately 30 per cent more work to be done during any given period of operation. In practical application, this means that work previously requiring at least 100 hours of machine time can now be accomplished in a 70-hour span.

Some Specific Advantages of the Present System of Electronic Data Processing

Low operating costs with efficient service for more than 600,000 subscribers has continuously been a primary Kansas Blue Cross-Blue Shield objective. In 1963, less than seven cents of every dues dollar was spent on operating the Plans—the remainder being spent on hospital-medical-surgical care for subscribers. With continuing growth, electronic data processing will have as its goal the maintenance of this record as it works to accomplish the following specific aims:

- Faster and more accurate payments of millions of dollars in benefits. (1963 saw combined Blue Cross-Blue Shield payments of \$32.5 million; 1964's outlay will be greater, and 1965's even more.)
- Rapid and accurate establishment and maintenance of a growing variety of contracts; greater efficiency in billing; more accuracy in accounting processes and in statistical maintenance.

- More reliability in keeping track of individual membership records and of the over-all enrollment census.
- Slowing down increases in clerical costs and reducing the need for employing larger numbers of personnel.

In summary, this means a speedier and more effective handling of paper work involving the health care needs of 33 per cent of the Kansas population. Blue Cross-Blue Shield is confident that electronics—once fully installed and technically perfected—will provide the answer to these needs.

How The 1460 Actually Works

The new computer uses the stored program concept with magnetic tape storage. These stored procedures permit operators to read data from punched cards—such information as identification numbers, addresses, age, type of contract, effective dates, and procedure codes being recorded on magnetic tape reels resembling those used for movie films, each nearly one-half mile in length. At present Kansas Blue Cross-Blue Shield has a tape library of 450 such reels.

Not only can information be read, but it may also be transported within the computer. It can be added to, subtracted from, multiplied, divided, and modified in any fashion necessary to acquire answers to questions asked. All this can be accomplished at speeds measured in micro-seconds.

Auxiliaries to the machine can print computations derived or reproduce raw records at rates of 600 lines of type per minute.

The capacity of the present electronics equipment is enormous; but the needs of an ever growing, ever more complex Blue Cross-Blue Shield operation will continue to increase, eventually exceeding the present computer's capacity. This implies the continuing need for expansion of electronic equipment. Today's adequate machine will eventually evolve toward future obsolescence. As relative capacity decreases, improved equipment will be needed for replacement. This will be an ongoing project, charging Blue Cross-Blue Shield with a responsibility to remain one step ahead of need.

The result will be an improved service to physicians, hospitals, and the subscribing public at the low operating costs which have always characterized the non-profit prepayment concept upon which Kansas Blue Cross-Blue Shield is founded.

Nothing is sadder than the consequences of having worldly standards without worldly means.

—Van Wyck Brooks



Book REVIEWS

CROSSEN'S SYNOPSIS OF GYNECOLOGY by Daniel W. Beacham, M.D. and Woodard D. Beacham, M.D. C. V. Mosby Company, St. Louis, 1963. 371 pages illustrated. \$7.50.

This little book of some 360 pages is now appearing in its sixth edition—the first which has not had one of the Crossens as an editor, although the name is retained in the title.

The new book is brought up to date by its new editors, but as noted by them in the preface, the many advances in gynecologic medicine and surgery have not decreased the importance of a history and examination, and the chapter on this subject "has required little change."

Chapter headings include Anatomy and physiology; Gynecologic examination and diagnosis; Malformations; Diseases of the vulva, —of the vagina; Malpositions of the uterus; Pelvic infections; Benign lesions of the uterus; Cancer of the uterus; Tumors of the fallopian tube; Endometriosis; Ovarian tumors and cysts; Complications of pregnancy; Disturbances of function; Infertility; Miscellaneous disturbances, and Medicolegal points in gynecology.

In the preface to the first edition, Dr. H. S. Crossen noted that the synopsis was intended primarily for students and practitioners not intending to specialize in gynecology, for whom principles are important, but details of treatment are not. In following this precept it has succeeded admirably. It presents *good* procedures for diagnosis, and specifies principles of treatment, but not technical details of operations or other forms of treatment. It is important that the non-gynecological practitioner know what *can* (and should) be done for his patient, but not that he know how to do it if he is to refer her elsewhere.

The format of the book and the type are both good. There are numerous good illustrations—both photographs and drawings.

It is a good book and should fulfil its intended purpose. Perhaps medical students will use it most,

but it is worthy of a place on the shelf of many practitioners also.—*O.R.C.*

DISEASES OF THE SKIN by George C. Andrews, M.D. and Anthony N. Domonkos, M.D. 5th Edition. W. B. Saunders Company, 1963. 749 pages illustrated. \$16.50.

This standard dermatologic textbook has been revised and brought up to date. Although there seems to be more material contained than in previous editions, the size has not been enlarged appreciably, and the book remains the smallest of the comprehensive encyclopedic type textbooks.

The addition of a co-author, Dr. Domonkos, has not changed the style. This edition, as the previous ones have been, is concise and rather abrupt in style. The format has been changed to double columns; this plus the absence of references within the text aids the readability of the already readable book. At the end of each chapter, the inclusion of extensive references, current and mostly in English language publications, allow the reader to readily select his own additional reference material.

There are many photographs. Hardly a page or a condition escapes illustration. However, it almost seems as though an attempt has been made to include only the dramatic.—*C.M.L.*

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HAPPY TO ASSIST YOU

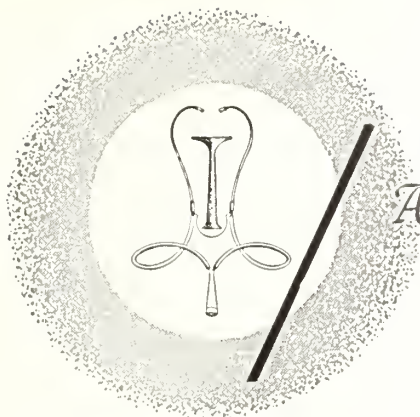


Along The BOOKSHELF

Clendening Medical Library

RECENT ACQUISITIONS

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- Asimov, Isaac. The human brain, its capacities and functions. Houghton Mifflin, 1964.
- Barsky, A. J., Kahn, Sidney, and Simon, B. E. Principles and practice of plastic surgery. 2d ed. McGraw-Hill, 1964.
- Bartels, Heinz, and others. Methods in pulmonary physiology; a discussion. . . . Hafner, 1963.
- Blair, Donald. Modern drugs for the treatment of mental illness. Thomas, 1963.
- Blatz, Hanson. Introduction to radiological health. McGraw-Hill, 1964.
- Bowers, W. F. Techniques in medical communication. Thomas, 1963.
- Bredow, Miriam. The medical assistant; a guidebook. . . . 2d ed. McGraw-Hill, 1964.
- Bunnell, Sterling. Surgery of the hand. 4th ed. Lippincott, 1964.
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- Crispell, K. R., ed. Current concepts in hypothyroidism. Macmillan, 1963.
- Eisman, Ben and Bosomworth, Peter, eds. Vasodilator agents in management of wound shock. . . . N.A.S.-N.R.C., 1963.
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- Flavell, Geoffrey. The oesophagus. Butterworths, 1963.
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- Hall, D. A. Elastolysis and ageing. Thomas, 1964.
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- Meyler, L., ed. Side effects of drugs. . . . 4th ed. Excerpta Medica, 1963.
- National Research Council. Subcommittee on Transfusion Problems. General principles of blood transfusion. Lippincott, 1963.
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- Nite, Gladys and Willis, F. N., Jr. The coronary patient: hospital care and rehabilitation. Macmillan, 1964.
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- Scanga, Franco, ed. Atlas of electron microscopy; biological applications. Rev. ed. Elsevier, 1964.
- Schwartz, M. O. and Vesin, P., eds. Plasma proteins and gastrointestinal tract in health and disease; proceedings. . . . Williams and Wilkins, 1963.
- Smart, J. V. Elements of medical statistics. Thomas, 1963.
- Spalding, J. M. K. and Smith, A. C. Clinical practice and physiology of artificial respiration. Davis, 1963.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

SEPTEMBER

- Sept. 11-12 Annual West-Northcentral Conference on Diseases Common to Animals and Man, University of Nebr. College of Medicine, Omaha. Write: H. W. McFadden, Jr., M.D., Univ. of Nebr. College of Medicine, 42nd & Dewey Ave., Omaha 5.
- Sept. 17-19 National Cancer Conference, Philadelphia. Write: Coordinator, 5th Nat'l Cancer Conference, American Cancer Society, 521 W. 57th St., New York 19.
- Sept. 27-Oct. 2 Annual meeting of the Flying Physicians Association, Riviera Hotel, Palm Springs, Calif. Write: Flying Physicians Assn., 332 S. Michigan Ave., Chicago 60604.
- Sept. 28-30 42nd annual clinical conference, Kansas City Southwest Clinical Society. Write: Kansas City Southwest Clinical Society, 3036 Gillham Road, Kansas City, Mo. 64108.

OCTOBER

- Oct. 5-9 Annual Clinical Congress, American College of Surgeons, Chicago. Write: S. J. Harbison, M.D., Secretary, 55 E. Erie St., Chicago 11.
- Oct. 11-15 VIII International Congress on Diseases of the Chest, American College of Chest Physicians, Mexico City. Write: Murray Kornfeld, Exec. Dir., 112 E. Chestnut St., Chicago 11.
- Oct. 22-24 District VII, American College of Obstetricians and Gynecologists, Birmingham, Ala. Contact: John B. Nettles, M.D., Dept. of Ob-Gyn, Univ. of Ark. Medical Center, Little Rock.
- Oct. 25 Annual scientific meeting, American College of Nutrition, Americana Hotel, New York City. Contact: Robert A. Peterman, M.D., 3 Craig Court, Totowa Boro, New Jersey 07512.

- Oct. 29-31 Symposium "Endocrines and Aging"—annual meeting, Gerontological Society, Leamington Hotel, Minneapolis. Write: Ernst Simonson, M.D., Laboratory of Physiological Hygiene, Stadium Gate 27, Univ. of Minnesota, Minneapolis 55455.
- Oct. 30-31 1st National Conference on Health Education, AMA Headquarters, Chicago.

NOVEMBER

- Nov. 16-18 Scientific meeting, Section on Otolaryngology, Southern Medical Association, Memphis, Tenn. Write: Neil Callahan, M.D., 506 Professional Bldg., Portsmouth, Virginia.
- Nov. 9-11 Scientific meeting, Interstate Postgraduate Medical Association, Pittsburgh. Write: Interstate Postgraduate Medical Assn., Box 1109, Madison 1, Wisc.
- Nov. 20-21 Annual M.D. Day, University of Missouri Medical Center, Columbia. Contact: Gail Bank, Exec. Dir., Postgraduate Medical Education, Univ. of Mo. Medical Center, Columbia.

POSTGRADUATE COURSES

- American College of Chest Physicians.
- Sept. 24-26 *Electrocardiograph in Infants and Children*, Detroit.
- Sept. 28-30 *Environmental Diseases of the Heart and Lungs*, Cleveland.

For more information on above courses, write to the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

University of Colorado postgraduate courses:

- Sept. 21-25 *Pulmonary Disease Seminar*
- Oct. 5-7 *Fractures*
- Oct. 22-24 *Chiefs of Staff Conference*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, Denver 80262.
(Continued on page 416)



Personalities—IN KANSAS MEDICINE

Gary Lee, former director of the Lawrence-Douglas County Mental Health Center, has accepted the position of director of the psychotherapy clinic at Forbes Air Force Base and moved to Topeka in July.

Otto C. Fritts, Osage City, recently retired after 65 years of active general practice. Fifty years of general practice were recently celebrated by **Francis D. Kennedy** of Norton.

More Kansas physicians on the move: **Dennis Richards** recently moved from Bushton to Herrington; **Donald G. Holcomb**, who has been practicing in Liberal, will move to Goleta, California, soon; and **Charles Wilson**, LaCrosse, has accepted a grant from the National Institute of Mental Health and will move to Norman, Oklahoma, where he will take a three year residency in psychiatry at Central State Hospital.

Three Kansas physicians have been appointed to serve on the teaching-training hospital ship *SS Hope*. **Harold W. Brooks** and **Van Parmley**, both of Wichita, will be assigned to the hospital ship in Trujillo, Peru, and will be stationed there for a year or longer. **Thomas A. Turner**, Halstead, served as a member of the fourth rotation team at Guayaquil, Ecuador, during July.

G. O'Neil Proud, professor of ear, nose and throat at Kansas University Medical Center, has been appointed state chairman of the Deafness Research Foundation. Dr. Proud will act as spokesman for DRF and serve as liaison between the foundation, the medical profession and the general public.

Robert and Mildred Julius Stevens, Garnett, attended a meeting of the World Medical Association in Helsinki, Finland, in June. After the meeting they traveled the Scandinavian countries, Germany and Holland before returning to Garnett.

The chairman of the Department of Medicine at KUMC, **Mahlon Delp**, was presented the annual alumnus award of the KU Medical Alumni Association at their annual meeting in Kansas City in May. Among the new officers installed at the meeting were **Ronald W. Stitt**, **Richard A. Gruendel**, and **Tom R. Hamilton**, who will serve as vice presidents. **Alvin Silvers** was elected membership and election chairman. All are from the Kansas City area.

Delbert V. Preheim, Newton, was a speaker at the meeting of the Mountain States Regional Conference of the American Public Welfare Association, held in Wichita in June. Dr. Preheim spoke on the meaning of illness and old age, self care, and diversional activities.

Paul C. Laybourne, Kansas City, participated in a seminar at the Osawatimie State Hospital in June. The seminar, open to the public, is part of the hospital's continuing education program. Dr. Laybourne is director of the Division of Child Psychiatry at KUMC.

Governor John Anderson recently announced the appointment of **Donald R. Germann**, M.D., Kansas City, to the Governor's Nuclear Advisory Committee.



JASPER M. DICKINSON, M.D.

Jasper M. Dickinson, 71, a physician in Coffeyville since 1919, died in Coffeyville Memorial Hospital on July 3, 1964.

Dr. Dickinson was born in Platte Rock, Illinois, on May 4, 1893. He attended the University of Southern Illinois and Shurtleff College, Alton, Illinois, and was graduated from the University of Colorado, and Northwestern Medical School in 1918. He served with the armed forces during World War I. He was a member of several community and medical organizations, and served on the staff of the Coffeyville Memorial Hospital.

Survivors are his wife, a son and daughter, and four stepchildren.

TONY G. DILLON, M.D.

Tony G. Dillon died at his home in Fairway, a suburb of Kansas City, on July 2, 1964, at the age of 72.

Born on July 11, 1891, in the Argentine district of Kansas City, Kansas, Dr. Dillon graduated from the University of Kansas School of Medicine in 1925. He had been a staff member of St. Margaret Hospital since 1936 and was head of the urology department since 1929. He was an associate professor of urology at the University of Kansas Medical Center. Dr. Dillon served in the European theater during World War II.

He is survived by his wife.

JOSEPH R. HENNING, M.D.

Joseph R. Henning, Ottawa, died on June 23, 1964, in an automobile accident in which his wife was also killed. He was 66 years old.

He was born on October 15, 1897, at Athol, Kansas, and attended Ottawa University and was graduated from the University of Kansas School of Medicine in 1930. He began his medical practice in Westphalia, moving to Ottawa in 1939, where he practiced until his death. Dr. Henning was a veteran of World War I and II, serving as captain in the U. S. Army. He was a member of several Masonic orders, civic clubs and medical organizations, and served as Franklin County health officer.

He and Mrs. Henning are survived by a son and a daughter.

HAZEN L. KIRKPATRICK, M.D.

Hazen L. Kirkpatrick, 63, Topeka, died on July 2, 1964, in a Topeka hospital.

He was born on February 22, 1901, at Blue Mound. He was graduated from the University of Kansas School of Medicine in 1927. A specialist in diseases of the eye, nose and throat, Dr. Kirkpatrick practiced for a year in Concordia before moving to Topeka. He served as a major in the Air Corps during World War II. He participated in many community activities, was a member of the Masonic and Elk lodges and a number of medical associations.

Survivors are his wife, two sons and a stepson.

VERNON ALFRED VESPER, M.D.

Vernon A. Vesper, 65, Hill City, died on May 18, 1964. He was born in Graham County on January 27, 1899, and received his medical degree from Washington University in St. Louis in 1926. He practiced medicine in Hoxie and Downs, Kansas, before moving to Hill City, where he continued his practice until his death. He served for three years as a captain in the U. S. Army during World War II.

Dr. Vesper is survived by several brothers and sisters.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence

Summary of Cases Reported in April 1964 and 1963

<i>Diseases</i>	<i>April</i>			<i>January to April Inclusive</i>		
	1964	1963	5-Year Median 1960-1964	1964	1963	5-Year Median 1960-1964
Amebiasis	4	18	6	6	42	23
Aseptic meningitis	—	—	—	1	—	1
Brucellosis	—	3	3	1	5	9
Cancer	291	261	291	1,190	1,148	1,148
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	6	—	2	17	2	6
Gonorrhea	276	251	228	1,004	951	734
Hepatitis, infectious	52	27	52	297	91	259
Meningitis, meningococcal	—	3	2	4	4	6
Pertussis	4	2	3	8	23	14
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	1	—	—	3	—	2
Salmonellosis	16	18	7	59	47	18
Scarlet fever	3	83	83	61	253	351
Shigellosis	25	2	9	131	15	50
Streptococcal infections	180	122	122	924	688	692
Syphilis	79	93	81	335	365	394
Tinea capitis	9	15	13	34	39	44
Tuberculosis	24	28	25	83	107	100
Tularemia	—	1	1	3	5	5
Typhoid fever	—	—	—	2	—	2

Announcements

(Continued from page 413)

versity of Colorado Medical Center, 4200 E. 9th Ave., Denver.

Sept. 15 to June 15, 1965 Nine month tutorial program in Cardiology. Offered by Institute for Cardio-Pulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, Calif. Write: E. Grey Dimond, M.D., at the Scripps Clinic and Research Foundation, La Jolla.

Oct. 22-24 Gastroenterology—American College of Gastroenterology, New York City. Write American College of Gastroenterology, 33 W. 60th St., New York 10023.

Oct. 3-9 Annual Otolaryngology Assembly. Write: Dept. of Otolaryngology, Univ. of Illinois College of Medicine, 1853 W. Polk St., Chicago 60612.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

LeRoy Alcox, M.D.
702 Maple Street
Coffeyville, Kansas

Leuke B. Lueken, M.D.
3244 East Douglas
Wichita, Kansas

Ralph E. Bellar, M.D.
Joslin Hospital
Harper, Kansas

Nova L. Morgan, M.D.
210 North Main
Haysville, Kansas

F. G. Bichlmeier, M.D.
155 South 18th
Kansas City, Kansas

Robert A. Rawcliffe, M.D.
3244 East Douglas
Wichita, Kansas

Arlo R. Edmundson, M.D.
Joslin Hospital
Harper, Kansas

Ben Rubin, Jr., M.D.
3740 Booth, Apt. No. 5
Kansas City, Kansas

F. William Saul, M.D.
604 West 10th
Emporia, Kansas

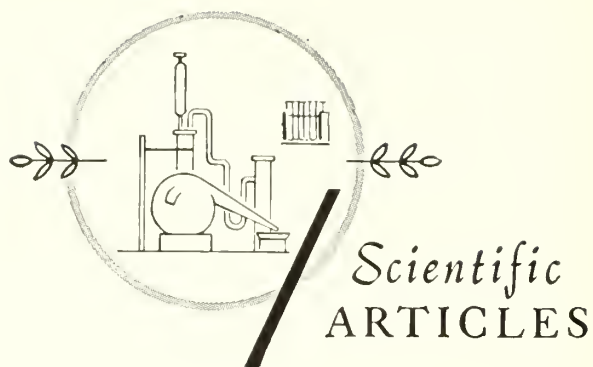
The Emporia Issue

About three years ago the Editorial Board conceived the idea of having an issue of the JOURNAL devoted to the contributions of one geographical area, and Emporia was selected for the trial, if the members there would be willing to do so.

Under the stimulus and guidance of Dr. John L. Morgan, this idea was presented to the Emporia physicians. After a period of incubation, results became evident and enthusiasm (or at least willingness) grew.

The final result of this venture is herewith presented to the Society, and it is with considerable pride that we do so, for it demonstrates dramatically what can be produced by some concerted efforts and with good leadership. This leadership has been entirely that of Dr. Morgan, who is deserving of a great deal of credit and appreciation for his willingness, his devotion and his skill. Of 22 physicians in active practice there, 16 have participated in this effort!

This "Emporia Issue" then, is a challenge from the physicians of Emporia to those of other Kansas communities to produce medical papers for the JOURNAL. Who will be first to accept the challenge? Emporia has proved that it can be done.



Is It a Stroke?

Certain Patients With "Strokes" Deserve Special Studies

JOHN L. MORGAN, M.D., and
EDWARD J. RYAN, M.D., Emporia

THE WORD "STROKE" usually implies cerebrovascular insufficiency from extracerebral great vessel pathology or from intracerebral thrombosis, hemorrhage, or embolism. The following brief report of some of our experiences, including condensed patient histories, is intended to emphasize that when a stroke is diagnosed it is wise to take a second look at the patient, his history, physical findings, and laboratory studies. We do not intend this to be a textbook listing of all of the conditions causing syncope, paralysis, or convulsions. We have excluded patients who obviously had an injury or an obvious intracranial space-occupying lesion. The label of "stroke" was prominent in the differential diagnosis of the patients presented below but other diseases were found, some of them remediable.

Patient No. 1

A 72-year-old widow (a physician's mother) was admitted to the hospital August 4, 1958, because of confusion which her friends in a neighboring apartment reported to her son on the day of admission.

Dr. J. L. Morgan received his medical degree from the University of Pennsylvania School of Medicine in 1940, and Dr. Ryan graduated from the University of Kansas School of Medicine in 1936. They are in the private practice of internal medicine with P. W. Morgan, M.D. and Gould C. Garcia, M.D.

This was characterized by difficulty in eating and conversing, and she was noted to have her shoes on the wrong feet. She had "fainted" briefly at the dinner table two months before admission and she had been

As practicing physicians we must decide which patients with so-called "strokes" we should refer to a neurologist. The patients presented illustrate certain of the criteria which prompt referral for special studies and definitive treatment.

noted to stagger when walking one month before admission.

She was pleasant, but amnesic for the events of the previous week. She denied any injury.

When she was first examined her blood pressure was 155/85 and she had auricular fibrillation with a ventricular rate of 132. Her pupils were equal and she had a mild weakness of her left arm. Her tentative diagnosis was cerebral embolus secondary to auricular fibrillation.

Six days after admission she developed sudden complete paralysis of the left arm.

The sudden increase in this patient's paralysis prompted neurological consultation.

She was referred to a neurosurgeon and arteriograms were done which disclosed a right subdural hematoma. Bilateral trephinations were done and a large right subdural hematoma was drained.

She completely recovered and was last seen by one of us socially at a reception in 1961 (three years later) at which time she was apparently normal though she had amnesia for her hospital stay in 1958.

Patient No. 2

In 1956, this male patient, then 77 years old, was involved in an auto accident. He sustained severe contusions and lacerations of the frontal portion of the head, and multiple fractures of the ribs. A month following injury, headache began and occurred daily for a month. He then complained of increasing fatigue, but failed to develop neurological signs or symptoms. Because of persistence of the headache, the possibility of subdural hematoma was considered. None could be demonstrated, and he subsequently improved.

Six years later, when he was 83 years old, he was brought to the hospital by his family, and the following history was obtained: Ten days before admission, he had an episode of diarrhea and fever, followed by headache. Six days before admission, he became intermittently confused. Then he developed weakness of right upper and lower extremities, followed progressively by semistupor, aphasia, and right hemiplegia.

Physical examination showed a semistuporous state. Right hemiparesis was present and a Babinski was positive on the right. Pupils were equal and reacted normally. Eyegrounds were negative, except for arteriosclerotic change. Skull x-ray was normal.

Cerebral thrombosis seemed probable, until careful repeated questioning of the family elicited a history of nearly forgotten trauma three months previously. At that time, he had slipped off a cart and stepped on a pitchfork, the handle of which struck him on the forehead. He had been momentarily dazed but not unconscious. He had moderate headache at intervals for two weeks followed by apparent complete recovery.

In the light of this history, he was referred to the neurosurgical service at the University of Kansas Medical Center. There an arteriogram showed large left subdural hematoma. This was surgically drained.

The patient recovered uneventfully, and continues active participation in farm work at age eighty-five.

Patient No. 3

This patient, a 48-year-old woman, was a severe and intractable alcoholic of many years' standing. Severe

arterial hypertension had been present for twelve or more years. Due to real or fancied drug intolerance, plus non-cooperation, treatment for this problem had not been satisfactory or sustained. Tachycardia of 100 to 140 at rest was a consistent finding. She was not hyperthyroid.

Over a ten year period, she had been repeatedly hospitalized for episodes of amnesia, confusion, hallucinations, dehydration, and "black-out spells." These latter had been invariably associated with falling, accompanied by varying degrees of trauma, and occasional generalized convulsions.

In February, 1962, she was admitted to the hospital and the following history obtained:

Two weeks previously, she had a convulsion, similar to previous such episodes, had fallen, and had sustained multiple contusions. Two days before admission, a similar event occurred. Twenty-four hours after this, she became aphasic, then semi-comatose. A right hemiplegia became evident. Repeated convulsions occurred, dominantly rightsided.

On physical examination, she was noted to be dehydrated and stuporous. Convulsions occurred even during the examination. Paralysis in the right lower extremity was complete; partial in the right upper extremity, and right facial paralysis was present. The pupils were equal. The reflexes were hyperactive, but equal. Bilateral positive Babinski signs were elicited.

She was referred to the neurosurgical service at the University of Kansas Medical Center. Arteriography revealed a left subdural hematoma. Because of the solidity of the clot, this could be evacuated only by lifting a large skull flap and this was successfully accomplished. The surgeon commented on the degree of cerebral atrophy, presumably a result of chronic alcoholism.

Postoperatively, the hemiparesis improved satisfactorily, but improvement in the aphasia has been gradual and incomplete.

It was evident on hospital admission that a major catastrophe had occurred; the only diagnostic problem was to determine the character of the catastrophe. Confusing factors were the long history of hypertension, the long history indicative of organic brain damage, and the many prior occurrences of convulsions with varying degrees of associated trauma. In this case, arteriography was decisive.

Patient No. 4

A 77-year-old man experienced a 30 minute episode of aphasia, numbness of right upper extremity, and weakness of the right lower extremity. These symptoms cleared completely, but were followed by frequent right supraorbital headaches and occasional mild vertigo. Neurological examination was negative. Skull x-ray showed no abnormality.

These mild symptoms caused no disability and he continued to live alone and care for himself for six weeks. Then he was found at home, confused, vomiting, and complaining of headache and was admitted as a suspected stroke. A neurological examination on admission showed only bilateral positive Babinski signs.

On questioning the relatives, it was found that two and a half months previously he had been involved in an auto accident, thrown forward into the windshield, and had sustained a laceration above the right eye. This had been sutured in the emergency room and he had been dismissed. Thereafter, he had experienced rather frequent frontal headaches.

He was referred to the neurosurgical service at the University of Kansas Medical Center. Arteriograms revealed bilateral subdural hematomas. These were successfully evacuated and the patient made an uneventful recovery.

The relatively minor trauma, requiring only emergency room treatment, with the long interval before significant symptoms occurred, initially obscured the correct diagnosis.

COMMENT

Many of our older patients cannot remember an injury which may need be only trivial and it is this group which most often have subdural hematomas, the incidence being greatest over 70 years of age. On the other hand, many of our older patients are unsteady and admit to many falls and minor head injuries so it is difficult to sift the wheat from the chaff. Patient No. 3 above had fallen many times on the basis of her alcoholism and apparently on only the last occasion had incurred a subdural hematoma. One writer elicited a history of trauma in 64 per cent of his series of subdural hematomas and another series was reported as showing a history of trauma in only 56 per cent.

In older patients localizing neurological findings of a subdural hematoma are often bizarre and the symptoms are insidious. One explanation for this is that the brain may be somewhat atrophied with widening of the subarachnoid spaces, allowing considerable expansion of the hematoma before it gradually compresses cerebral tissue, causing symptoms. Increasing drowsiness and confusion may be the first symptoms and a search for localizing signs is often not done during this phase and then when coma occurs these localizing signs may be masked. Focal neurological signs are often confusing. Hemiplegia may be present on the same side as the lesion due to a shift of the contralateral peduncle against the tentorial edge. Pupillary dilatation is often a useful sign of unilateral temporal pressure. Occasionally there are bilateral

Babinski signs with normal ocular fundi and a normal spinal fluid pressure.

It has been reported that arrhythmias can cause a reduction in cerebral blood flow and cerebral angiospasm follows as a result of the low blood flow further increasing cerebral ischemia, and this along with cerebral emboli was considered in the diagnosis of the first patient above.

We have often wondered if we were doing enough spinal fluid examinations but on reviewing the literature we were impressed with how seldom they are helpful. Usually there is xanthochromia (which might be overlooked in artificial light), and usually the protein is increased. One series in the literature reported 15 per cent normal spinal fluid examinations in a series of subdural hematomas. Xanthochromia appeared in 41 per cent of another series. There is some danger of foraminal herniation in doing a lumbar puncture just as there is in other types of intracranial mass lesions.

X-rays of the skull have been of very little help to us. Feldman reported that 63 per cent of the x-rays in those who eventually had surgery for subdural hematomas were positive. If the pineal gland is visualized and is displaced, it is a helpful diagnostic sign.

The widespread use of anticoagulants has added another predisposing factor to the formation of subdural hematomas and it has been reported that even with a mildly low prothrombin level a slight trauma may cause a subdural hematoma. We saw such a patient who was receiving anticoagulants, with a "safe" therapeutic level of prothrombin, and no clearcut history of injury, but yet had a subdural hematoma. We have not included his history here because he was properly diagnosed when first seen.

Until about 1955 the policy of "When in doubt, trephine" was in vogue and a substantial number of negative trephinations of the skull were felt to be a sign of good surgical judgment, indicating that few or no intracranial clots were being left unevacuated. Even with liberal trephining, abnormally placed hematomas were occasionally missed and the procedure itself carried a slight but significant risk. In the last ten years the increasing use of arteriography has decreased the number of trephine procedures and now "negative" trephinations are almost a rarity in many neurosurgical groups.

One neurosurgeon relates that he was taught in medical school that syphilis was the great imitator but that now as a neurosurgeon he feels that subdural hematomas deserve this designation.

In one series of 81 patients with proved subdural hematomas 20 had previously been diagnosed "cerebral vascular accident." The relief of evacuating a subdural hematoma is often complete and dramatic

and it behooves all of us in practice to find as many as we can amongst those who have been diagnosed as having strokes.

Patient No. 5

A 40-year-old garage owner was admitted to the hospital by ambulance as an emergency on February 20, 1956, because he fell unconscious as he was outdoors in the process of cleaning a car with steam. He regained consciousness shortly after arriving at the hospital at which time he admitted to a mild bitemporal headache which persisted for several hours. His blood pressure was 135/70. There was no head bruit and his ocular fundi were normal. The left side of his tongue was bitten. His neurological examination was completely normal without any localizing signs. A head x-ray was normal. He was diagnosed as having cerebral vascular insufficiency.

There had been two previous episodes. On November 15, 1955, while driving a truck he suddenly lost consciousness for five minutes and through a stroke of luck a passenger riding in the cab with him grabbed the wheel and was able to guide the truck off the road. He had "slobbered" while he was unconscious but there was no incontinence or tongue-biting and there were no residual effects. The patient blamed this episode on "carbon monoxide" and had a rather plausible explanation. On November 29, 1955, again while driving his truck on a call at five o'clock in the morning he "did not pass out" but he could not turn the truck to negotiate a curve in the road. His "muscles just would not respond." The truck turned over and in a few minutes the patient was able to "wriggle out" of the wreck rather miraculously unscathed.

He had been seen by a general practitioner following these two previous episodes and had been told that he had "slightly high blood pressure." On detailed questioning he admitted to occasional mild retrobulbar headaches, precipitated by glare in the preceding two or three years. There was no history of any head injury. His family history was non-contributory; specifically there was no history of epilepsy.

He was transferred to the University of Kansas Medical Center where a complete neurological examination was negative. There was no head bruit. An electroencephalogram was normal. Bilateral carotid angiograms revealed an enormous vascular tumor mass completely replacing the right frontal lobe and a pneumoencephalogram showed that this vascular mass displaced the ventricles to the left. A craniotomy done under hypothermia March 15, 1956, disclosed a massive arteriovenous malformation which was not amenable to surgical excision. He conva-

lesced uneventfully and was dismissed one week postoperatively on diphenylhydantoin medication.

He continues to be seen every six months and the only symptoms he admits to are short episodes of "staring straight ahead and being unable to talk for a few seconds" if he has fever or forgets to take his diphenylhydantoin (Dilantin®). His extensive garage and repair service is thriving and he has not missed a day of work in the last eight years. He was last seen in April, 1964.

COMMENT

This man, who was aged 48 in 1964, has had this malformation since birth yet his three major manifestations occurred at age forty.

Patient No. 6

This 58-year-old, white housewife was first seen at noon on October 11, 1954, in a beer tavern. The fire department with the "pulmotor squad" had already arrived and the patient was sitting in a booth resting with her head on her arms. Through the general confusion it was learned that it was her husband's day off from his work as a railroad conductor and they had stopped by the tavern where she had one glass of beer following which she shook all over and was unable to talk though her eyes were open. Her blood pressure was 120/80. She was aphasic. The pupils were equal with no nystagmus. Her right arm and leg were weak though not paralyzed. She was not incontinent nor had she bitten her tongue.

She was taken to the hospital by ambulance and admitted with a tentative diagnosis of cerebral vascular insufficiency. Her weakness cleared in several hours. The right biceps reflex was increased for 24 hours and her right finger to nose coordination test was impaired for this same time. Skull x-rays were normal.

There was no history of injury. In 1950 she had become unconscious for three-quarters of an hour while talking on the telephone following which she was hospitalized for five days by another physician with the diagnosis of "stroke" and she thought she was told "high blood pressure, around 220."

She was dismissed from the hospital after a three day stay apparently asymptomatic.

On April 4, 1955, she called from the bathroom to her husband, and when he saw her, the right foot was twitching and her speech was slurred. She slumped to the floor as he talked with her. When seen in perhaps 15 minutes she had weakness of her right arm and leg and though she was alert her speech was slurred. She was again admitted to the hospital by ambulance and by the time she was admitted her

* Parke, Davis & Company, Detroit.

weakness had cleared and her speech was normal. There were no localizing neurological signs and again a skull x-ray was normal.

She was transferred to the University of Kansas Medical Center where it was felt that she had difficulty in putting ideas into words and that she had a slight weakness of the right arm. There was no papilledema. A left carotid angiogram showed a shift of the vessels suggesting a left frontal lobe tumor. A craniotomy disclosed a four centimeter benign meningioma in the left parietal area. She recovered completely and when last seen in November, 1963 (eight and one-half years later!), she was completely asymptomatic.

In retrospect it seems much more obvious that this patient was a candidate for neurological investigation than at the time of her original admission. It was easy to label her as having recurrent cerebral vascular episodes since this diagnosis had been made some years previously by another physician who had allegedly found hypertension which we never confirmed. In view of the rapid clearing of her major neurological signs with each episode and her symptom-free intervals between episodes it was difficult to predict that she had a space occupying lesion.

COMMENT

Typically, meningiomas cause slowly but relentlessly progressive signs of a cerebral deficit and symptoms of cerebral irritation such as seizures. Eight per cent of meningiomas in one series, however, produced intermittent and transient defects of motor and sensory function lasting only a few minutes or up to 24 hours and these occurred in a stereotyped pattern. McLaurin also emphasized that benign meningiomas can cause sudden apoplectiform symptoms.

Patient No. 8

A 54-year-old grain foreman was seen as an emergency April 9, 1957, at 12:45 p.m. at one of our local cafes because, as he finished his lunch and pushed his chair back from the table, he had a generalized convulsion lasting one minute following which he slumped to the floor unconscious. When seen he was lying on his back with his jaws clenched and his tongue was bleeding. His pupils were equal and he had a roving nystagmus. There was no sign of injury nor was he cyanotic. His blood pressure was 210/100. He was admitted to the hospital by ambulance and during the journey he had two generalized convulsions.

Following admission to the hospital he had another generalized convulsion and he was agitated, requiring sedation and restraints until five hours after admission, when he suddenly became rational and was

able to give a coherent history including his assertion that there was no injury and no known hypertension nor had he any warning of the episode which prompted his admission. He had not been medically examined for many years and his last previous chest x-ray was done years ago. He smoked two packs of cigarettes daily.

His family history, or perhaps better labeled "the red herring" section of his record, related that both parents died of cerebral thrombosis and a brother's son had grand mal seizures.

When his convulsions ceased his blood pressure was 165/105. His roving nystagmus disappeared on the second hospital day and he had no symptoms, not even a headache. There were no localizing neurological findings. His ocular fundi and a skull x-ray were normal.

A chest x-ray was done as part of his diagnostic survey and this showed right upper lobe atelectasis.

Four days after admission a supraclavicular node dissection was done and a small lymph node showed metastatic squamous cell carcinoma.

He was dismissed seven days after admission and returned to work.

In October, 1957, six months after dismissal he was readmitted to the hospital because of facial paralysis of two months' duration and a fainting episode ten days before admission. While in the hospital he developed convulsive episodes with increasing frequency and he expired November 7, 1957.

An autopsy was performed which showed squamous cell carcinoma of the right upper lobe of the lung with diffuse metastases. Unfortunately a head autopsy was not authorized but it was our feeling that he had cerebral metastases from cancer of the lung and this impression was shared by the consultants at the University of Kansas Medical Center where he had previously been referred for palliative therapy.

The correct diagnosis was accidentally established by a chest x-ray.

COMMENT

It is not uncommon for cerebral metastases to evidence the first symptoms of a carcinoma of the lung. Primary brain tumors but especially metastatic cancer may present sudden epileptiform symptoms.

Patient No. 9

This 60-year-old postmaster was referred to the hospital by a physician in another town on February 27, 1964. He was awakened at 11:30 p.m. two nights before admission by nausea and a numbness in the left arm and about his lips. He vomited repeatedly during the night. From the time of onset

he also noticed that he had double vision for all objects more than two feet in front of him, and he had lightheadedness but no true spinning sensation on change of posture. There was no history of injury.

The numbness of the left arm and the double vision were still present when he was admitted to the hospital.

His blood pressure was 195/118. There was bilateral nystagmus with the quick component laterally and this was marked in the left eye. His ocular fundi were normal. There were no other localizing neurological signs.

A head x-ray was normal.

It was felt that he had cerebral vascular insufficiency probably with a brain stem hemorrhage.

Two nights after admission he got out of bed at 1:45 a.m. to go to the bathroom, smiled and talked rationally with the nurses then suddenly collapsed to the floor. He was helped back to bed and was apparently conscious but did not talk. His eyes rolled upward and the nurse thought his left arm and leg were somewhat rigid. He was seen 20 minutes later and was alert and asymptomatic with no *new* localizing neurological signs.

He was referred to the University of Kansas Medical Center where arteriograms showed a narrowing of both carotid arteries and an operation loosening the constricting tissues and unkinking the vessels relieved his symptoms.

COMMENT

For many of us in practice the consideration of the blood vessels in the neck leading to the brain (i.e. the carotid and vertebral arteries and the basilar artery) as a cause of cerebral symptoms has been included in our diagnostic thinking only in the last few years.

A kinking or twisting of the carotid arteries has been reported to cause symptoms such as this patient had.

Transient disturbances of vision often indicate vertebral-basilar artery involvement. Other symptoms suggesting vertebral-basilar involvement are mental confusion, personality changes, true vertigo, speech impairment, headache, and hemiparesis and usually any or all of these symptoms are *episodic*. When transient hemiparesis and transient sensory phenomena (especially involving the face) involve different sides of the body in subsequent attacks the basilar artery system must be suspected.

Many of these narrowings are now amenable to surgical procedures such as endarterectomy, and must fall into the increasing group of new "curative" procedures which we older physicians must add to our established diagnostic consideration before we cast the diagnosis into an "incurable" category.

Discussion

Certain criteria have been advocated to differentiate strokes from other disorders. Some of these have been:

(1) Strokes usually strike swiftly though a thrombus may have a gradual onset.

(2) Strokes usually culminate quickly; that is, the maximum evidence of damage is present within the first 24 hours.

(3) Improvement is usually gradual after a stroke rather than sudden, although dramatically rapid recovery may occur after so-called "little strokes."

(4) Strokes produce neurological symptoms and signs reflecting the areas of the brain denied blood.

(5) Strokes usually have a medical background, such as age, hypertension, or systemically related vascular disorders.

Most thrombotic strokes occur in elderly patients but they may occur surprisingly frequently under the age of sixty. Wells and Timberger quoted a series of 77 patients with proved cerebral thromboses in the age group from six to forty-nine and interestingly enough over half of these were normotensive. In the elderly, strokes often occur when the vital processes are at a low ebb as in sleep. Embolic strokes may occur at any age but usually there is a source such as rheumatic or other heart disease. Hemorrhage occurs most often in hypertensive patients in mature life and often during peaks of activity.

Cerebral angiography has been referred to in the discussion of subdural hematomas but a few comments should be made about this procedure. One of us once accused one of our neurosurgical friends of doing angiograms on *all* of his patients and of course he vehemently denied this. The exact indications for angiography have not yet been defined. It is not yet a "routine" or a completely safe procedure, but it should be considered in all cases of stroke of doubtful origin. It may be "highly successful or it may be unadulterated disaster." It is usually done with the possibility of surgical correction in mind. Patients with occlusive vascular disease are poor risks for angiography, an estimated 20 per cent of such patients having complications in contrast to about six per cent in other categories of brain disease.

It is gratifying that the patients presented were eventually correctly diagnosed and some of them "cured." The discouraging contemplation in retrospect is that there have been many other patients with alleged strokes who were left with that diagnosis when undoubtedly some of them should have been investigated more completely. In one of our Emporia hospitals in the last five years it is interesting to note the diagnoses which are listed in Table 1.

In one series of 800 patients studied elsewhere

TABLE 1

	<i>Cerebrovascular Disorders</i>				
	1959	1960	1961	1962	1963
Cerebral thrombosis . . .	52	41	44	39	22
Cerebral hemorrhage . .	13	49	31	21	13
Cerebral embolism	0	1	1	3	3
Cerebral vascular insufficiency	0	7	4	2	8
Cerebral vascular occlusion	3	2	2	2	1
Cerebral angiospasm . . .	2	8	7	4	2
Total	70	108	89	71	49

with an admitting diagnosis of cerebral vascular disease ten per cent were subsequently found to have aneurysms, arteriovenous malformations, brain tumors, or subdural hematomas.

Conclusion

In Emporia, a town of 18,000 population, we have no neurologist and this certainly would hold for most communities this size and smaller.

As practicing physicians we must decide which patients with so-called "strokes" we should refer to a neurologist. The patients presented illustrate certain of the criteria which prompt referral for special studies and definitive treatment.

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The "Heart Attack"

Anticoagulants and the Acute Myocardial Infarct

RUSSEL BRADLEY, M.D., *Emporia*

THE PAST FIVE YEARS have shown wide acceptance of anticoagulants in the treatment of the acute myocardial infarct. It has at times been a skeptical acceptance, but the use has been more often enthusiastic. The private practice used in this study is no exception, employing anticoagulants with frequency since 1956. After four years it is a clinical impression that anticoagulants have not aided in sending more patients home from the hospital. This impression has prompted a review of all the acute myocardial infarcts treated by this practice in order to define more clearly the truth of the clinical picture.

The data in this review were collected from charts of St. Luke's Hospital in Kansas City, Missouri. All were private patients and were treated by the same group of physicians.

The 219 patients included in this study were divided into the two groups: those who were treated with anticoagulants, and those who did not receive anticoagulants. They numbered 57 and 162 respectively. Tables 1 and 2 describe these groups as to age, sex, and mortality.

In order to be included in this study the patient must have shown a myocardial infarct by both the clinical picture and the electrocardiogram. He must have been hospitalized within 24 hours of the onset of symptoms. Those dying in the first 24 hours of hospitalization were not included. No limit was placed on the number of infarcts although most studied were first infarcts. Any treatment with anticoagulants must have been started on the first day of hospitalization.

All patients were treated with bed rest and subsequent gradual ambulation. Any previous illnesses or complications such as shock and congestive failure were treated as necessary. All patients received quinine unless there were specific contraindications. Previous illnesses were not considered significant since the incidence was essentially the same in both groups.

The criteria for anticoagulant control were similar to those of Wright *et al.* in that the patient who received anticoagulants was required to have a prothrombin time of 30 per cent or less 70 per cent of

the time during the first four weeks following the infarct. Adequate control must have been obtained within the first six days and every effort was made to obtain these results within the first three days. Coumadin® or Dicumarol® were used in necessary dosage to maintain control.

Two hundred nineteen cases of acute myocardial infarction were reviewed. Fifty-seven of these were treated with anticoagulants. No significant decrease in mortality or diminished incidence of death from thromboembolic phenomena could be demonstrated. The routine use of anticoagulants in the acute myocardial infarction is questioned.

It was felt that the best method of evaluating anticoagulants in the acute myocardial infarct would be a comparison of the mortality rate of the two respective groups during their initial hospitalization. This appeared to give the most accurate figure for reflecting any advantage of anticoagulants. The group receiving anticoagulants had a mortality per cent of 17.5 as shown in Table 1. Those not receiving anticoagulants had a mortality per cent of 16.6 as shown in Table 2.

Autopsies were reviewed as a second step primarily to see if a decrease of thromboembolic phenomena as the cause of death could be noted.

Table 3 analyzes the cause of death as shown by autopsy and clinical picture. Autopsies were performed on 80 per cent of the deceased patients who had been treated with anticoagulants. In the group that were not treated with anticoagulants, autopsies were carried out on 77 per cent of the demised.

Anticoagulants used in the treatment of the acute myocardial infarct are thought, theoretically, to prevent extension or propagation of the original thrombus and to prevent the formation of secondary thrombi in the legs and heart with subsequent embolization.

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Coumadin®, Endo Laboratories Inc., Richmond Hill, New York.

Dicumarol®, Abbott Laboratories, Chicago.

TABLE 1
WITH ANTICOAGULANTS

Age Group	No. of			
	Patients	Male	Female	Deaths
30-39	6	6	0	1
40-49	8	8	0	2
50-59	11	9	2	0
60-69	13	7	6	4
70-79	16	12	4	2
80-89	3	2	1	1
	57	44	13	10

Mortality, 10/57, 17.5 per cent

This defines the complications of the acute myocardial infarct included in the category of thromboembolic phenomena in Table 3.

It is interesting to note in Table 3 that thromboembolic phenomena are the second most common complication leading to the demise of the patients in this series. Clinically it accounted for 40 per cent and 37.5 per cent of the deaths. In the autopsies reviewed, thromboembolic phenomena were responsible for 37 per cent and 28 per cent of the deaths.

The anticoagulant and the acute myocardial infarct controversy seems to remain in an unsettled state. Some do not believe that a quandary exists and believe that anticoagulants should be a part of the routine management of the acute myocardial infarct. A great many investigators, however, have spent long periods of time trying to obtain the basic truths, but have not succeeded. This in itself casts doubts on the value of anticoagulants in the treatment of acute myocardial infarct. The question certainly is not settled in this study. The results, however, are interesting since

TABLE 2
WITHOUT ANTICOAGULANTS

Age Group	No. of			
	Patients	Male	Female	Deaths
30-39	4	3	1	0
40-49	22	21	1	3
50-59	44	38	6	4
60-69	56	34	22	10
70-79	30	17	13	5
80-89	5	5	0	5
90-99	1	0	1	0
	162	118	44	27

Mortality, 27/162, 16.66 per cent

the anticoagulants were given under the most ideal conditions for the private clinician.

In this study, attention has been directed toward mortality and the part played by thromboembolic phenomena. A review of the literature shows that many studies have been carried out with similar points in mind. Table 4 summarizes the data reviewed as to author, number of cases involved, number and percentage mortality of the anticoagulated groups and number and percentage mortality of the non-anticoagulated groups.

TABLE 3
CAUSE OF DEATH

Cause	With Anti- coagulants	Without Anti- coagulants
I. Autopsied		
1. Shock	0	1
2. Congestive failure	4	8
3. Thromboembolic phenomena	3	6
4. Arrhythmia	0	0
5. Ventricular rupture	0	4
6. Metastatic carcinoma	1	0
7. Bronchopneumonia	0	2
	8	21
II. No autopsy (clinical)		
1. Shock	1	1
2. Congestive failure	0	0
3. Thromboembolic phenomena	1	4
4. Arrhythmia	0	1
5. Ventricular rupture	0	0
6. Other cause	0	0
	2	6
	10	27

Per cent autopsied 8/10 80 % 21/27 77%

Per cent of deaths due to thromboembolic phenomena

A. Autopsied 3/8 37.5% 6/21 28%

B. All deaths 4/10 40 % 10/27 37%

A quick glance at Table 4 makes the anticoagulant appear to be a useful addition to the treatment of the acute myocardial infarct. Of the 2,303 patients serving as a control group, 667 died. The percentage mortality was 28.9. The groups treated with effective doses of anticoagulants numbered 2,275 with 444 dying. This gave a mortality per cent of 19.6. Since anticoagulants are used to lessen thromboembolic phenomena, one may postulate that the difference in the above mortality percentages is due to thromboembolic phenomena. Thus, by subtracting 19.6 per cent from 28.9 per cent one may assume that 32.2

TABLE 4
SUMMARY OF PREVIOUS STUDIES

<i>Investigator</i>	<i>No. of Cases</i>	<i>Mortality With Anticoagulants</i>		<i>Mortality Without Anticoagulants</i>	
		PER CENT	NO.	PER CENT	NO.
1. Björck (1)	143	37	53		
2. Bresnick (2)	128			20.3	26
3. Bresnick (2)	122	15.6	19		
4. Conrad (3)	369			54.4	201
5. Conrad (3)	146	17.1	25		
6. Doscher (6)	414			15.5	64
7. Helander (9)	193			30	58
8. Helander (10)	80	26	21		
9. Holten (12)	174	22.5	38		
10. Holten (12)	166	26.1	43		
11. Holten (12)	256			35.9	92
12. Linko (14)	320	23.4	75		
13. Sansory (21)	103	10.6	11		
14. Sansory (21)	133			26.3	35
15. Wright (25)	589	16	94		
16. Wright (24)	432	15	65		
17. Wright (24)	368			24	88
18. Wright (25)	442			23.4	103
			444		667
Total number treated with anticoagulants equals					2,275
Total number not treated with anticoagulants equals					2,303
Per cent mortality for treated group $444/2,275$					19.6%
Per cent mortality for control group $667/2,303$					28.9%
Calculation: $28.9\% - 19.6\% \times 100$					32.2%
					28.9%

per cent of the deaths were caused by thromboembolic phenomena. Although the incidence of thromboembolic phenomena has been quoted from 8-80 per cent, it is seldom quoted as the cause of death in more than 30 per cent of cases. Therefore, this would mean that anticoagulants are at least or even greater than 100 per cent effective. It has been suggested by some that anticoagulants have further beneficial effects beyond that of anticoagulation, but this has not been proven. Although, in the present series the incidence of fatal thromboembolic phenomena was in the upper range of reported data no significant difference could be demonstrated between the anticoagulated and the control group.

Another approach to the above findings might be that, at the present time, a method for the selection of patients has not been developed to evaluate anticoagulants and their usefulness in the routine management of the acute myocardial infarct may be questionable. Russek has alluded to this point. He feels that anticoagulants are not needed in all patients with an infarction. He divides his patients into good risk

and poor risk groups on the basis of several criteria outlined in his paper. He believes that only the poor risk patients should be subjected to anticoagulant therapy, for the per cent mortality in his good risk group has been 3-4 per cent. This leaves him only 30 per cent of the patients with an acute infarct to be treated with anticoagulants. Schnur reviewed 1,350 patients and could not find any definite advantage in using anticoagulants in the mild infarct. This viewpoint is also supported by Rosenberg.

On the basis of this study and review of the literature, it is felt that anticoagulants are only of questionable value in the routine treatment of the acute myocardial infarction. Anticoagulants may have more efficacy in the treatment of certain limited groups who have succumbed to a myocardial infarction.

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The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on November 27-28, 1964, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application forms and other information can be obtained from Dr. Elbert W. Crandall, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

Advice for Life

Orienting the Patient (and His Family) With Acute Myocardial Infarction

PHILIP W. MORGAN, M.D., *Emporia*

WHEN A PHYSICIAN is called around midnight because a vigorous man was awakened by chest pain and seeks relief, the doctor has time enroute to think of the possible diagnosis. On the phone he had been told, inquiringly, "Probably a heart attack." One of the important details will be to explain the problem to the patient and to the family. It might hazard the patient's earning power and frighten him to infer heart disease from his symptoms when in reality the problem might be hiatal hernia, or some other non-cardiac diagnosis. It is equally serious for the patient's welfare and the doctor's reputation if the diagnosis of acute myocardial infarction is missed. Since accurate diagnosis may demand three or more hospital days there is no alternative. An electrocardiogram is not pathognomic until through-and-through, or surface, or lining damage exists, and this may never occur or possibly happen after a week, but the transaminase may be positive the first or second day and the LDH test may be diagnostic from three to ten or more days. It is thus apparent that my first advice is to say that the patient, like our president, is just "in for tests, no real diagnosis yet!" Our obligations, as usual, are two. The patient's diagnosis and care is first but censorship of phony news releases is second and often almost as important as the first.

I am convinced the patient's survival or death has often been determined by the degree or lack of patient-family-doctor teamwork. The carefully considered responses and explanations to repeatedly asked questions over the last 35 years have been a great help and guide to me as each new, unanticipated problem involving these answers has arisen. My replies are offered as no ritual but to direct individual ingenuity toward means of clarifying things so the non-medical person can understand.

Explanations we know well can be profitably catalogued in our memories for ready use, thus avoiding confusion caused by giving new answers to old questions asked before.

As soon as the diagnosis is definite I want to brief

the family, and as soon as the patient is thinking clearly after his sedation, I want him to know the facts. The truth is much better than they expected it to be. As we think together of commonplace, meaningful, fitting ways to answer the sundry questions, it is apparent that we will have provided ourselves stories for other situations since patients with myocardial infarction are candidates for (1) ruptured heart, (2) congestive failure, (3) shock, (4) thrombo-embolic accidents or thrombo-embolism, (5) any

A physician caring for the patient who has had a myocardial infarct has a great responsibility to inform both patient and family of the illness. Telling too much, too little, or the wrong thing can have dire consequences. Here are answers to many questions.

and all arrhythmias, and (6) they are also threatened by numerous extra-cardiac burdens which may be prevented or treated. I like to list them collectively, as I orient the family and the patient, as the six threats to recovery.

To bring order out of chaos and to indicate the timetable of onset and subsidence of burdens or threats to the patient's recovery, I employ a diagram which I have constructed and find helpful (*Figure 1*).

The diagram offers graphic proof that the illness has no crisis, but that the threats develop within the first 18 hours and then subside over a period of days or weeks. The patient's total management is made understandable and acceptable as each item is shown to have a specific purpose. After drawing and explaining the diagram, the family and patient have gained assurance that we understand the problem and have a problem of management. In the small percentage of patients whose diagnosis is questionable, complete management is ordered until adequate laboratory data and rechecked electrocardiograms either confirm or deny the diagnosis of an infarct. The patient and his family are told that he is fully pro-

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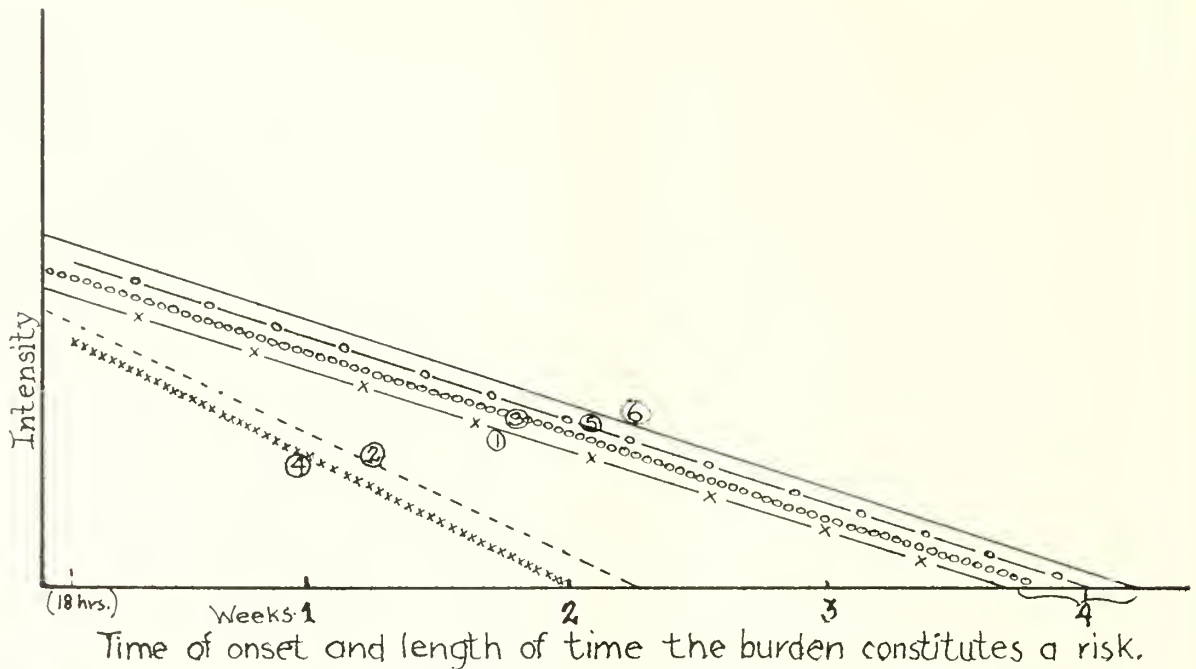


Figure 1. Timetable of Burdens

This chart illustrates the burdens, which are the basis of therapy for persons with recent acute myocardial infarction, and influence their recovery. It is apparent that there is no crisis.

It should be noted that all but two of the threats or burdens develop at zero hour; ruptured heart and thrombo-embolism threaten at or after the 18th hour.

Zero hour or time of the occurrence of the infarction.

The risks: —x— (1) Serious disturbances of heart rhythm—0 hour to 4th week.

..... (2) Shock—0 hour until 16th day.

ooooo (3) Congestive failure—0 hour through 4th week.

xxxxx (4) Cardiac rupture—18th hour to 14th day.

—o— (5) Thrombo-embolic accidents—18th hour through 4th week.

—— (6) Extra cardiac burdens—0 hour through 4th week:

Infections of any organ or organ system.

Disturbed functions of other organs or organ systems:

- (a) G.I. tract (nausea, bloat, ulcer, infection, etc.).
- (b) G.U. tract (urine retention).
- (c) Respiratory tract (asthma, hiccup, cough, shortness of breath).
- (d) Biliary tract—any time.
- (e) Musculo-skeletal (cramps)—any time.
- (f) Skin (allergy)—any time.
- (g) Endocrine and metabolic (diabetes, gout, thyrotoxicosis, obesity)—0 hour to 4th week.
- (h) C.N.S. (toxic delirium)—2nd day to 8th day.

tected if the diagnosis is confirmed, and no harm is done if it is established that he has no infarct.

Despite the diagram and its meaning, there have always been questions, and if they are not asked, I present the list I have collected and my answers to them:

1. *Question:* What happened, and what should we expect?

Answer: We know precisely what has happened. The heart is a muscular sac and its wall is a piece of living tissue nourished and kept going by small blood vessels which supply every millimeter of its area. One of these little blood vessels has been plugged, rather acutely—not in a period of weeks or months, or in seconds or minutes, but over a period of hours, so quickly that the substitute routes of supply have not been able to deliver blood to that area. That little area of heart muscle is in the process of dying, just as a piece of foliage in an unirrigated field would die if the irrigation ditch were plugged.

2. *Question:* What is this called?

Answer: Big words—"coronary thrombosis with myocardial infarction." The area of dead muscle is known as infarcted and properly known as a myocardial infarction since myocardium means heart muscle and infarct means the area killed as a result of the blood supply being plugged off. The plug which formed in the blood vessel is called a thrombosis. Another word for plug is "embolus" but an embolus is a clot that formed some place else and then landed where it is. This is rare compared to thrombosis in coronary vessels. As I said, coronary vessels are those vessels which nourish the heart wall. We might well imagine a city nourished by a life-line of supply such as Highway 50 and, suddenly without warning, that highway is blown up. With no other route of supply, a portion of that city would suffer severely, but if the city's council knew well ahead of time, they would have fixed detour routes of supply so that the city would not be harmed by the blowing up of the highway. Our body has numerous detour routes of supply to all areas of the heart, as well as to most of the other organs, and if this plugged vessel had appeared over a period of weeks or months the death of the piece of heart muscle, which is nourished by this vessel, would not have occurred.

3. *Question:* Why did symptoms awaken him?

Answer: The reason this occurred during rest is because during total body rest blood circulation is quite slow; during the active daylight hours it is going very rapidly through the little blood vessels and the clot is not able to pile up at all. The clot formed on a small rough spot in the lining of this tiny blood vessel. Since the clotting mechanism has no brains, the clot instead of simply forming a

smooth, little pancake-like pad over the rough spot, piled up and entirely plugged the artery which is actually about the size of the lead in a pencil. This plugging often becomes complete by the middle hours of the night or early morning, although it can happen in the daytime. In the daytime hours when a person is suddenly stricken with severe pain while working it usually means that the plug or thrombus has partly formed previously. The individual called upon his body for an amount of work, but because of the recently damaged blood supply the heart did not get enough oxygen and fuel and, therefore, was unable to do what was requested of it. Nerves in the handicapped area were irritated and the person perceived a very, very severe type of persisting, increasing, unrelenting discomfort that gave him the thought of impending death and made him very restless. If the pain had subsided as soon as he stopped what he was doing, it would have meant the blood vessel was not completely plugged, but if his pain persisted for hours in its complete intensity we could suspect that the blood vessel was actually plugged.

4. *Question:* Could he have prevented all of this?

Answer: Angina pectoris or pain on effort relieved by rest is often a warning that a coronary thrombosis may develop, especially if the pain is coming with greater ease and greater frequency. The diagnosis of angina pectoris is based upon the patient's story or history, though numerous attempts have been made to demonstrate it with instruments and thus get around the rare possibility of a liar or malingerer. I ask the patient "How would you do on a cold day or with a full stomach if you and I hurriedly walked a half mile slightly uphill to catch a bus or train, or if we ran up three or four flights of stairs to reach our seats at a show before they closed the doors?" If the answer indicates only shortness of breath or fatigue, that means that he had no chest distress, since if he had had chest distress, it invariably over-shadows the other symptoms named. Yet often it is a bit ambiguous; that is, the patient's description of the distress is ambiguous, such as "Doc, it isn't really a pain (as he talks he clutches at his sternal area although the sensation is not then present) but it is hard to describe and it leaves if I stop what I am doing. Somehow I feel I must stop and if you had it, you would too!" Once a Kansas City man and his wife were in town to see me regarding possible heart disease. His answers to my questions were evasive, but his wife interrupted to say they had quickly walked two blocks to be on time for the appointment. He had insisted upon stopping to look at furniture in a store window. She knew the furniture did not interest him. She brought this to his attention and made him explain why he stopped. He then admitted that he had effort chest pain. All examinations including exercise elec-

trocardiograms were normal. He was a candidate for coronary thrombosis, but much can be done to prevent it in persons with such a story.

5. *Question:* The family often asks "Why do the symptoms vary when people have a coronary thrombosis?"

Answer: It is felt that the severe and unrelenting pain of coronary thrombosis is due to the dying piece of heart muscle and the dying nerve ends therein. The little piece of heart muscle that is dying is probably no bigger than a dime, or at most a quarter or fifty cent piece. The nerve ends are unaccustomed to the chemicals produced by dying, rotting, gangrenous muscle and the stimulus that these chemicals give imparts a severe, unrelenting pain to the perception of the person who has it. Sometimes this pain is absent because the working part of the nerve ends is knocked out very, very early. On the other hand, sometimes the pain is so severe that the patient is thrown into shock because of the unbearable pain, and shock is one of the serious complications to persons with recent myocardial infarction. It poses in itself a risk of 80 per cent or so, if persistent, to the patient who has had an infarction. The tragedy is that painless infarction carries with it the same risks as the painful ones, but the patient is denied protection and treatment and, so, he may drop dead from a ruptured heart or serious disorder of heart rhythm because he tried to pursue living as usual. Such a death usually occurs not at the time of the thrombosis or infarction, but several days later as many autopsies have shown.

6. *Question:* What will happen now that we know the diagnosis?

Answer: This piece of dead muscle will be replaced by scar tissue and nature immediately sets about building this tissue and removing the dead muscle and by two weeks, all the dead muscle has been removed but the scar is not tough enough to allow the person to get up. If he does get about, it will bulge and until after the fourteenth day may blow-out like a blister on a tire, and a ruptured heart means sudden death to the patient. It is known that it requires three weeks for the scar to become tough enough to allow the man actually to get up and use himself without causing a bulging of the scar tissue. During this three weeks' time, the risks listed on the chart are beginning to subside and have subsided sufficiently by the end of the third week so that we let the patient out of bed. So many thousands of autopsies have been done on people prior to the present day that we know more about what happens every hour in every day in a person who has had a myocardial infarction than we do day by day in the body of a pregnant woman. There have never been as many autopsies done on pregnant women each day and each hour as there have been on people with coronary thrombosis.

7. *Question:* Why did he have belly pain and want to vomit?"

Answer: The reason the pain is often in the abdomen and sometimes accompanied by vomiting is that one large surface of the heart lies on the diaphragm (the breathing muscle) which is a very flimsy structure no thicker than a piece of chamois skin and no more rigid than wet chamois. The stomach is on the under side of it and the nerve endings above are easily confused with those of the stomach. The stomach, being an organ that picks up the troubles of other organs, sets up the symptom of nausea and distress. This symptom is much more common when the posterior surface of the heart is involved with an infarction since that surface really lies on the diaphragm.

8. *Question:* What causes the irregular rhythm as we feel his pulse?

Answer: The heart is, as I said, a muscular sac and the heart muscle is peculiar or unlike any other muscle in that every one of its millions of component muscle cells has within it the ability to produce the stimulus for a contraction and then the ability to contract as a result of its own stimulus—so it is a generator and a motor all in one. In every heart there is a spot in the wall of the right auricle which is one of the two thin-walled receiving chambers. This is a tuft of tissue, neither muscle nor nerve, but resembling both under the microscope and is known as "specific tissue." This node generates electrical charges which it turns loose at frequent intervals and which travel over the auricular musculature (as waves travel over still water, agitated at one point) and instantaneously the auricles contract. This is picked up as it meets the junction of the auricles and ventricles and is transmitted over similar specific tissue called the auriculoventricular node and then, via the bundle on the right and left, extending from this down to the tips of the ventricles. It is turned loose at the tip of the ventricles and this wave of stimulation comes over the ventricles and they contract. This constitutes the normal mechanism of the heartbeat. Having done this, it is ready to repeat itself and this goes on from before birth until death. Nature, however, took no chances! She endowed every one of the billions of tiny heart muscle fibers that make up the entire heart wall with the same trait of automaticity, the ability to generate a charge, turn it loose, then contract as a result thereof. Consequently, the many, many hundreds, even thousands and more of microscopic muscle cells that surround the piece of gangrenous or dead heart muscle are stimulated and irritated by the chemicals created by the dead heart wall and therefore they turn loose stimuli for contraction. The heart is caught off-guard and beats in consequence of these abnormal stimuli and therefore premature or extra

beats occur which interrupt the normal rhythm. They are interpreted as skipped beats because they come so close to previous regular beats that they are not felt at the wrist. These premature beats may occur in any sort of heart problem and they are common even in normal people. Another trait of heart muscle is that if its beats are at a certain rate it will accept from substitute centers, stimuli for contraction only at a split second after the last regular beat. It is called hyper-irritable phase. It is as though a company of infantry were walking down the street and some ventriloquist in the back row of privates, knowing the orders as every member of the military forces must know them in order to obey them, kept calling "Column right"; but feet beating the pavement drown out the command until all of a sudden he called it at the split second of time when all the soldiers' feet were off the ground. Then the order is heard and the column turns right. The captain up front represents the main pacemaker of the heart, and not hearing this order from the rear rank, keeps marching down the road. Finally he notices the company over in the field and in a loud voice orders, "Left oblique, right oblique," and the company comes back up the road because, after all, the captain has the loud voice of authority. The sino-auricular node, the highest authority as a pacemaker of the heart, just as the captain of a company of infantry, is the one in command and his orders normally dominate. In a crude way this represents what goes on in all of us. Few people in the reading time of this discussion have been free of at least one premature beat for no cause, although there are factors which may make premature beats common. Such are the toxins of tobacco or infection, or a distended colon under the diaphragm, or—probably most common—a person in a high state of tension. Also premature beats are common in the rest period after exercise, exemplified by going to bed. Undressing and preparing for bed is exercise, then in bed is rest. Quite frequently the person hears on his pillow the rhythm of his heart interrupted by these useless premature beats.

9. *Question:* Why are you giving oxygen?

Answer: Principally because the heart and lung work as a team and the job of that team is to pick up oxygen from the air and deliver it to the blood, then the blood delivers it to the body. So the need for oxygen governs our breathing and our heart's action, and when any part of this team is handicapped, our whole body screams for more oxygen. Room air has 18 to 21 volumes per cent oxygen but he is getting 40 to 60 per cent.

10. *Question:* Why does he want to sit up?

Answer: Eighty per cent of normal people have more lung air capacity if they are in a semi-sitting position rather than being in a completely flat posi-

tion. Therefore, they prefer semi-sitting to the lying position. Following a myocardial infarction the heart as a whole is made less effective as a pump because a piece of its wall is being replaced by a patch of scar tissue. We well know and have known for many years that the heart with a scar or two in its wall may go on and serve its owner a full lifetime without much handicap. Just as during World War II, men's underwear had a strip of elastic only across the back and it held the underwear up just the same, we do not need a heart wall that is all muscle.

11. *Question:* What are his chances or odds?

Answer: Possibly 80 to 90 per cent or even greater in his favor with present management, but if he receives none of those things, the odds are turned around so that they are much against him.

12. *Question:* Why do you want the patient in the hospital?

Answer: The risk to the patient with this illness is far greater than the risk most patients assume when they undergo surgery and yet no one would think of depriving surgical patients the benefit and advantage of hospitalization. Furthermore, the need for laboratories around the clock and the need for a drug room around the clock is oftentimes a necessity and now with increasing information we may want instruments that are not available in the home or in the doctor's office, such as pacemakers; instruments such as the big one in his room to eliminate serious rhythm disorders and numerous other devices not even known a few years ago.

13. *Question:* Why a commode at the bedside?

Answer: We try to relieve him of every extra bit of energy expenditure that we can, such as walking to the bathroom. It has been shown that sliding from the bed onto a commode is less work for most people than being lifted onto a bedpan. So if they are not in shock, I prefer to let them use a commode at the bedside and not two feet away. Another reason is that one time I had a patient who insisted on walking ten feet or more to the bathroom and on his way back dropped dead on the bed and at autopsy was shown to have died of a ruptured heart.

14. *Question:* Why no company or television?

Answer: The expenditure of energy in talking accounts for my restriction of company. An emotional excitement is as much a burden as is physical activity. Therefore, I allow no television, radio or telephone since I have had drastic experiences with each one of these. I have a friend at Johns Hopkins who told me of a patient from Kansas City who was receiving the *Star* and by error one day they printed that the patient was not doing well! The *Star* was called long distance and they ran off a galley proof correcting the error, mailed it airmail, and the man's depression left! I had an undertaker friend in a distant community

who told me while he was down with his "coronary" one of his competitors came to call and he said he knew this fellow would ordinarily not even speak to him. As he saw him enter the room, he visualized the man monkeying with his tape measure to see what size casket it would require to bury him! Now, of course, it is obvious that I restrict certain company! Professional personnel should excite little emotional response on the part of the patient. It is important that the patient receive "straight from the horse's mouth" (his wife's, for instance) at least once daily the fact that the house is still all right, the kids are all right, and everyone is in good health. I want a responsible relative to see him for ten minutes once or twice daily. If business is worrying the patient, I let his partner see him for a short time to relieve his anxiety.

15. *Question:* Why is he drowsy and woozy?

Answer: If he is concerned about his business or interested in a love affair with his wife or sweetheart, then he is not sedated enough. To avoid this risk of energy expenditure, I order adequate sedation for drowsiness which is wrongly often thought to be weakness. When I went to Europe in World War II, we went on a fast ship without escort and we found after we reached Europe that the ship had struck a large rock or obstacle as it left the Boston harbor and had sprung a leak in one of the fresh water containers and had to run half-speed all the way. I am told that a ship at sea with a rent in her hull can be mended enroute, but it has to go slower as this ship did. So the heart must go slower in mending damage to its hull and in running the heart slower it means the *total* person must go slower. This cannot happen if someone is present who excites an increase in heart rate.

16. *Question:* Will he ever be able to return to work?

Answer: My answer is, "Look at Eisenhower. He returned to work. He plays golf, and he had serious surgery following his myocardial infarction. Today he is well."

17. *Question:* Why does he have a catheter in his bladder all of the time?

Answer: Because many people make work out of emptying the bladder and we are not sure they always empty it. Therefore, to do away with this worry, we put a catheter in position which is much less an insult than a half-full bladder. This inability to completely empty the bladder is aggravated by the sedation also.

18. *Question:* What shall we tell people?

Answer: Tell them the patient has had a serious heart attack and that he has very good chances of recovering and resuming his former activity, but that he cannot have company. If they want to do something send him socks, handkerchiefs and other things

that are a mute implication that the doctor has implied that he is going to recover. Do not send withering flowers; preferably send a two-year magazine subscription. Keep the relatives informed daily but do not tell them to come or if they come, tell them to help wash the dishes and keep the house clean because they cannot see the patient. Do not let the patient know distantly located relatives are coming or are here. When people inquire too much, you can say that the patient has what Eisenhower had in Denver. That is one of the advantages of having had a president who has had a serious disease.

19. *Question:* Why make electrocardiograms periodically?

Answer: The electrocardiogram is an instrument that helps us a great deal in giving us information as to whether there is any extension of the trouble or if the progress of healing is proceeding according to the timetable—and note I use the word "timetable"!

20. *Question:* Is he apt to have another similar illness if he recovers? Can anything be done to prevent the recurrence?

Answer: Yes, he is a little more apt to have the same illness than someone else. We know that one branch of a coronary vessel had a rough spot, and, therefore, it is more likely that other pieces of his coronary circulation have rough spots. These are the forerunners of the plug or thrombus formation that caused the myocardial infarction.

21. *Question:* How about smoking and drinking?

Answer: Smoking causes blood vessel spasms. Blood vessel spasm may lead to decreased nutrition to the blood vessel wall. This may lead to dry spots and injured areas which may be the basis for a thrombus formation. Anything that causes blood vessel spasm has only the potential of harm and not of health. Drinking in moderate amounts has beneficial effects. This, however, must be restrained to therapeutic and not intoxicant amounts and it should not be allowed if it constitutes a crime in the mind of the person.

22. *Question:* How about driving a car?

Answer: About the last two things I allow these patients to resume are driving an automobile and having sexual intercourse. Both these experiences call for physical effort and both are accompanied by extreme emotional experience—the emotion of love on one hand, the emotion of hate on the other.

23. *Question:* Now that he is going home, what advice and instructions do you have?

Answer: (1) Keep his weight well within a desirable range, and this is a term used by insurance statisticians. After all, they know the most.

(2) Also his diet will be arranged so that he will have small feedings at three hour intervals because the human beast was never made to go five or six

hours without food. This prevents peaks and valleys of blood sugar levels. When the blood sugar level drops it causes blood vessel spasm and we can avoid this by having little feedings between meals.

(3) He must cultivate deliberate means of living.

(4) Avoid experiences and extremes of emotion such as rage, etc., and avoid rushing. Better that he only has one hand on his watch than two and better to come within 40 minutes of being on time than to hurry in order to make an appointment on time.

(5) He should be taught to run his own exercise and effort and know the three symptoms that constitute his limitations: (a) shortness of breath, and (b) genuine fatigue which we know to be normal symptoms; but (c) chest distress on effort, that is relieved by rest is a very severe symptom and is a sign the heart is not getting enough oxygen. This he must respect, and only he knows when this is coming. He must never wait for it to develop, because every time this happens he runs the threat of sudden death. It is important for him to remember that it may be anywhere from his umbilicus to his eyeball. So he may walk five flights of stairs one day and not half a flight the next—and only he knows. Exercise within limits helps improve his heart tone and strength. Obviously I abhor the phrase "take it easy," because it means nothing and the actual instructions can be far, far more specific than that.

24. *Question:* Why does the patient have to have a blood test every day while hospitalized?

Answer: It is in order to give medicine to control coagulation. It is safe if given correctly but is as much a killer for the human as it is for the rat (it is used as rat poison), if it is not controlled, so we have to know every day exactly what the coagulation time is. If we know, we can govern it carefully and after two or three weeks of this, we can do the tests much less frequently and estimate the dosage requirements. The same person's dosage requirement may differ in a few months from what it is now and even twins may require entirely different dosages. The dosages

may be as much as four times as much for one person as another. That is why he has to have a daily blood test while hospitalized.

25. *Question:* What can his children do to avoid this and is there a family tendency?

Answer: There is a family tendency to overeat, and there is a family tendency to have high blood cholesterol and other similar substances. These things should be avoided with moderation in diet.

In closing I tell, when possible, the story a friend of mine from Miami told at a heart meeting while my wife and I were having dinner with him and his wife. The story concerns Abe and his wife, Rachel, who were discussing the matter of no children and a long sterile marriage and it was decided she would see the doctor and find out why. So she did, and the doctor, knowing full well that when she returned home Abe would say, "Rachel, what did the doctor tell you for the big fee?," was put on the spot. He could find no cause for the barren marriage and decided it had to be hormonal in etiology and so he said, "Rachel, I tell you what. Everything is there and you are all right, except you don't have enough hormones. The glands are not working just right, you understand?" She said, "No, I ain't gettin' it." He tried a half-dozen explanations and looking out the window it finally dawned on him that maybe he could tell her that her "passion was deficient" since this would indirectly mean a lack of hormones. So he said, "I tell you, Rachel, you are deficient in passion and if you do get a baby, it will be a miracle. You get that?" She said, "Yeah, I think I get it." So she went home and sure enough Abe asked the question and she replied, "Well, I ain't too sure, but I think he was tellin' me that there is a fish in the passage and if I do get a baby, it's gonna be a mackerel!"

Obviously, all of us are afraid our best attempts at explaining things run a fair chance of being distortedly interpreted. I hope, through planned rehearsal, we succeed in clarifying the questions asked by patients and their families.

GALLEY PROOF CORRECTIONS

There is sometimes a misunderstanding about changes in an article on the galley proofs and the reluctance of the JOURNAL to make extensive alterations. The reason for this is quite simple and easily understood when one knows all the facts. The article has already been set in type. To make extensive changes requires that the typesetting be done over, at an additional cost which may even exceed the original, because it is slower work to fit pieces together than to set an entire article in type. It is also obvious, when one stops to think about it, that an alteration in the first few lines of a paragraph will probably make it necessary to reset the entire paragraph. This, of course, increases greatly the cost of printing and should be avoided as much as possible. The galley proof is for correction of errors, and a rewriting of the article should be done on the original copy before it is submitted for publication.

Using the Money

What Can Be Done With Trust Funds?

FUNSTON J. ECKDALL, M.D., *Emporia*

THE COMMUNITY of Emporia, Kansas, with its surrounding counties (with the exception of Chase County), has been fortunate in being able to draw from a number of charitable funds that have been accumulating throughout the years. The largest of these funds is the Jones Charitable Trust, established by Walter S., Evan C., and Olive T. Jones, contributing a number of million dollars for the use of needy children in Lyon, Coffey, and Osage Counties, where Mr. Walter Jones and his relatives owned land and had interests. The Jones' holdings also extended to Texas, where much of this land has been under lease for cattle and oil. While the exact value of this estate is difficult to estimate, its yearly income has been in the neighborhood of \$400,000. Before the fund could be implemented, however, the amount of money which had accumulated totaled \$600,000. While one of the functions of the Trust was to provide aid to polio victims and medical aid to all deserving children, this specific application was eventually modified by the advent of the polio vaccine. The amount of money available on a yearly basis was not being entirely consumed, and a problem arose, inasmuch as the will stated that all interest was to be exhausted each year. It became increasingly apparent that it would be practically impossible to utilize this amount annually. Consequently, a long court suit was instituted, resulting in a judicial interpretation of the terms of the will, a discussion of which occurs elsewhere in this article.

Other available funds in Lyon County are the Sadie Jones Fund for the care of children who reside in the city of Emporia or in the county. Although its primary concern is the treatment of the hard of hearing, this fund also encompasses dental, hospital, and medical expenses, with a one hundred dollar limit per individual. The Morgan Wilkie Fund was established for children, and elderly men and women with a yearly income of \$1,800. The Lions Fund, known as the Sight Conservation Committee, provides payments for glasses only, or for the examination of children by the doctor of their choice. The Kiwanis Fund for indigent children, assumes expenses for glasses, den-

tal and medical work. The club, however, would prefer to furnish financial aid for glasses and dental care only. To date, the Sertoma Fund has provided financial assistance only for the purchase of glasses. The Borton Ryder Fund is available to needy children who have resided in the city of Emporia for one year. Although the Heritage Fund was established for the purpose of providing clothing only, it has helped in the past with the purchase of school books. The Newman Fund provides help with medical and hos-

Trust funds whose resources cannot be used for their intended purposes can sometimes be diverted to other deserving areas by legal procedures.

pital expenses. Necessary supplies to needy and deserving high school students are provided by the Daisy Grimes Fund. This includes books and other items requisite to a high school education. This fund amounts to approximately \$25,000 to \$35,000—the total sum in the trust fund. There is, in addition, a Crippled Children's Commission to which all crippled children may apply for financial help. The Emporia Welfare and Social Service Association also provides school shoes, emergency food supplies, used clothing, and some new clothing. This group, furthermore, attempts to meet the yearly Christmas needs in Emporia, serving as a clearing group for all local Christmas lists. Finally, the Optimist Club has a fund designated for the general aid of children, about which, however, the author has little information.

In the previously mentioned legal case of the Jones Charitable Fund, the final provisions laid down by District Judge Sullivan include "... persons up to the age of 21 years, single or married, who at the time of application are living in Coffey, Lyon, and/or Osage County and have so resided for one year immediately preceding application." In addition, it was decreed that the Trustee in its discretion should determine which children are the needy ones, and the decision of the Trustee should be final. The medical interpretation stated:

The Trustee is authorized to obtain and pay for the

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services of medical doctors, osteopaths, dentists, nurses, technicians and other practitioners, and the cost of treatment in home, hospital, or elsewhere, including all charges therefor, the costs of medicines of all types and kinds, the costs of transportation for diagnosis or treatment, the cost of treating mental afflictions as well as physical disabilities and illnesses, acute as well as chronic, the cost of appliances and instruments, including but not limited to artificial teeth, artificial limbs, corrective instruments for eyes, wheel chairs, crutches and other appliances, articles and items which aid persons who are disabled or afflicted, either mentally or physically, the cost of therapeutic treatments, instructions, teaching and other means of aiding the afflicted and handicapped.

Under the terms of the new interpretation of the will, none of the above-mentioned services, appliances, or treatments are to be authorized, except upon the recommendation or prescription of a duly licensed physician, dentist, or institution.

The interpretation also included a statement on educational qualifications, authorizing the Trustee to render financial aid to worthy persons attending school, receiving an education, or involved in learning some skill or trade. "Need" is to be the primary determinant in all cases, rather than scholarship, although the latter qualification is also to be considered. Herein, the Trust will be able to offer assistance to a student so that he may remain in high school or enter a trade school or college.

An administration office for the Jones Charitable Trust has been established in room 306 of the Citizens National Bank Building, through which all applications may be made. Each request is handled on an individual basis, and any payment made by the Trust will be for an individual who has been rendered treatment or services. It is not the intent of this Trust to enter an area of responsibility or service which, by law, is provided by an existing agency. Rather, the Trust works cooperatively with such agencies so that each individual involved may derive the maximum benefit.

To date, under the specification "educational," the Jones Charitable Trust Fund has been responsible for approximately 269 grants in two years' time, representing a sum of \$145,051.39. Under the Special Educational Fund, including assistance to children in grade and high schools, the Trust has granted aid for the purchase of school books, supplies, necessary fees, school lunches, and special clothing and transportation costs to special "educational facilities," and other items, amounting to \$151,962.59, making a grand total of \$246,099.02. Two hundred and forty-three individuals have been aided by the Trust during the past two years. Furthermore, the total money expended by the Trust for medical expenses, including

all types of services, has amounted to \$94,136.43—a considerable fund for a two-year period.

Locally, the second largest fund is the Borton Ryder Memorial Fund, of which the principal is to remain intact at all times, with interest and accumulation thereon to be used only for rendering medical care and assistance to those children of Emporia who are unable to provide medical attention for themselves, its purpose being to alleviate the suffering of such children. This fund is controlled by the Board of Directors of the Citizens National Bank and contains approximately \$170,000 in trust with an annual income of approximately \$7,000. However, the fund had not been completely utilized each year and had been accumulating in the Citizens National Bank for some time. Partial reason for the non-usage of these funds has been the red tape involved. Many local doctors felt that the amount of money paid was insufficient and, therefore, not worth the trouble required in order to obtain it. Consequently, this fund was not always used to its fullest extent, and over a period of years interest had accumulated to approximately \$87,000, although previously, the bank was permitted to allocate a part of these funds for nursing scholarships. Recently, the court of Judge Sullivan decreed that the accumulated interest should be used and a majority of the accrued interest (approximately \$80,000) was granted for the construction of a home for the retarded children of Emporia. Obviously the remaining income amounts to \$7,000, the sum which was to be granted for services of doctors, osteopaths, dentists, nurses, technicians, and other practitioners, and for cost of treatment in the home, hospital, and elsewhere. It is a considerably reduced sum, as a result of the depletion of the original fund by \$80,000. Therefore, a majority of the bills once allowed cannot now be allowed, especially those for nursing scholarships or nursing stipends which, in the last year and one-half, have taken care of about 16 nurses at Newman Hospital. It will be further necessary to reduce these scholarships to much smaller amounts, thereby limiting these nursing scholarships to one or two at Newman Hospital for the three-year course of instruction.

Since it was instituted, the total number of cases cared for by the Borton Ryder Memorial Fund has been approximately 3,400. Originally, its primary purpose was to help provide nursing scholarships. However, today, judging from the present situation, the amount of the fund now allocated for nurses will be approximately \$4,800 a year. In other words, this present amount will make it possible for one or two, and no more than three, nurses to be sent through the Newman Memorial School of Nursing. The fund

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Bedside Nursing Care

Who Does It, and Who Will Be Doing It?

ROGER B. SAMUELSON, *Emporia*

ANALYSIS OF A TYPICAL month of nursing care in the Newman Memorial County Hospital of Emporia reveals levels of care by service as shown in Table 1. Statistical material of this nature has been collected for an insufficient length of time to reveal ten-year, twenty-year or longer trends in this hospital. The present is quite clear, however. Less than one third of bedside care hours are provided by registered professional nurses.

The purpose of this article is not to lament the low percentage of care being given by registered professional nurses. The hospital literature has documented this well, and the lay literature is full of discussions of the subject. The purpose is rather to attempt to detect trends in the provision of nursing care. Put another way, what does the future hold for nursing education?

I believe we will never return to the days of all care being provided by registered professional nurses and student nurses. In the first place, this care was wasteful of the nurse's ability and time. Secondly, this care was possible only in a period of surplus registered nurses, which period ended about 25 years ago. It is apt to recur only in a massive depression which would seem a high price to pay to provide more registered nurses. Thirdly, the complexities of nursing care have made the use of assistant nurses (or nurses' aides) almost essential today. This is attributed to advances in medicine, which are very well documented. Fourthly, licensure requirements for nurse registration have become more stringent in recent years. As may be seen, each of the above reasons ties in to the others.

It then follows that we should direct our attention to: (1) preservation and expansion of present programs for the education of registered professional nurses (in other words, don't abandon what we have, even if it is not adequate) and (2) the development of new levels of nursing care of sufficient quantity and quality to assure adequate competent nursing care of the hospitalized sick.

Mr. Samuelson received a Bachelor of Science degree from the University of Minnesota in 1946, and Master of Hospital Administration from that University in 1948. He has been administrator of the Newman Memorial County Hospital at Emporia since 1962.

It will be noted from Table 1 that care is provided in our hospital by four levels of nurses. It can be easily understood by the reader that within each of these four levels there is a variety of levels of competence. What we can measure and identify are essentially levels of education or training. In our hospital nurses' aides are given sixty actual hours of training in basic nursing procedures prior to floor assignment. The instruction is provided by one of our registered

The shortage of graduate nurses for hospital work has been a real problem, and seems more likely to become worse rather than better. One suggestion is offered to help relieve this shortage.

nurses, using a standard text. (A Manual of Simple Nursing Procedure—Mary J. Leake, M.S., R.N. Third Edition.) This instruction is given at no cost to the student, and is offered four times a year.

Our hospital also operates a school for registered professional nurses. This school has been in operation for a number of years, and is the source of the majority of registered nurses employed by this hospital. As may be seen from Table 1, however, the supply is not overwhelming. The care given by students, incidentally, is scheduled by the school faculty, provided under direct supervision of the school faculty, and relates to educational needs of the student as opposed to service needs of the hospital. The expense of this school is substantial, but considered very worthwhile. The statewide trend, however, is to fewer hospital schools of this type.

It is in the fourth category, that of licensed practical nurse, however, that it would seem that the future needs of the hospitalized sick best be served. Programs for the education of licensed practical nurses are being developed in the public school systems. Thus the direct financial burden of this education is not being carried by the hospitalized sick. The content of the courses is being controlled by the state licensing authority, so that the achievement levels of the graduates should be comparable regardless of the school. This

TABLE 1

<i>Service</i>	<i>% Care by Registered Prof. Nurses*</i>	<i>% Care by Student Nurses</i>	<i>% Care by L.P.N.</i>	<i>% Care by Nurses Aides</i>
Surgical	20.79	28.21	None	51.00
Medical No. 1	22.58	30.08	None	47.34
Medical No. 2	25.83	19.42	None	54.85
Long Term	8.00	8.78	14.16	69.06
Obstetrical	42.35	7.13	None	50.52
Nursery	52.28	None	None	47.72
Average	28.66	15.69	2.19	53.46

* Note: Head nurses, supervisors, and nursing administrative personnel are excluded.

is a big advantage which also applies to professional nursing schools. The duration of the course is most often one calendar year, which makes the program attractive to a large number of persons. Yet in one calendar year a substantial curriculum can be offered.

It would appear, therefore, that programs for the education of licensed practical nurses are the programs which offer the most encouragement to the reader worried about nursing care in tomorrow's hospital. We will always need our registered professional nurses in larger and larger numbers; but it would seem that their supply will remain static, or grow at a slow rate.

There are two levels of nursing care which I have not discussed; the two-year registered nurses and the four-year or baccalaureate degree nurse. This omission has been intentional, since these two categories are not represented in bedside care at this hospital. The first is not represented (by school) in Kansas although a program in El Dorado may get under way soon. If it develops successfully other two-year nursing schools may follow. The four-year level was omitted since it is not oriented to patient care but rather to nursing supervision, nursing administration, public health nursing, nursing education, etc., all essential but not the subject of this article.

Using the Money

(Continued from page 437)

is now assisting a number of nursing students, and it is not necessary that this money be repaid to the fund or to the bank.

It is to be hoped that this brief discussion will explain the situation existing in Lyon County, a community which has, indeed, been most fortunate in the grants available to its deserving citizens. Perhaps other communities throughout the state of Kansas will be stimulated to investigate the status of similar trust funds which have, in the past, been established for specific purposes and which are now accumulating interests that are not being fully utilized, according to the intent of the endowing will. In many cases, these funds should probably be brought up and reviewed by local hospitals and authorities and, where deemed necessary, be submitted to the courts for a

more modern interpretation of the wills or directives behind them. Undoubtedly, there will be discovered many clauses which have not been implemented or fully allocated over the years. It is hoped that such an investigation will bring to light some of these cases in your own community and that a more liberal interpretation will enable the involved funds to be utilized to a maximum benefit either for the children of your community, for nurses' scholarships, or for the care of the aged. It might even be suggested to some lawyers, if they have clients who wish to help along this line, that they establish nursing scholarships, as well as giving it to colleges. Such an investigation has acquainted the present author with situations which he had not realized existed—namely, the amounts of money accumulated in some of these funds over a period of years. By becoming curious and taking up this challenge, you may be able to help your community.

Hip Fractures

*Their Management by the General Surgeon —Further Experience With the Pelvic Anchor Sacral Rest**

THOMAS P. BUTCHER, M.D., *Emporia*

THE CALAMITOUS INJURY of hip fracture, occurring usually in the latter years of life, in the fragile, debilitated senior citizen will probably continue to be treated in a large percentage of cases by the general surgeon.

These patients are not easily moved over major distances, and frequently relatives or friends find it quite inconvenient to accompany the patient. Expense, too, may be a factor. But not least of the considerations is the desire of the patient to be cared for near his home.

Even among those previously unable to walk, hip fracture is not uncommon, and fixation by surgery can contribute much to comfort, and can greatly simplify nursing care.

Our experience concerns a small community that does not have an orthopedist. In the past 14 years some 265 cases have been operated upon in two hospitals by general surgeons and general practitioners.

The purpose of this article is to report on technics which were adopted in this community some 14 years ago. These have to do with positioning the patient, reducing the fracture, and obtaining dependable x-ray pictures while the operation is in progress. Comment will also be made concerning methods of internal fixation.

This material is not original. The general procedure was reported by Hall and Welmerling in 1951. The apparatus has been modified and improved since then, but the basic principles are unchanged.

It is because the technics have received our general acceptance and have proved so satisfactory in the hands of independent surgeons of this community who are not trained orthopedists, and also because these technics do not elsewhere seem to be widely known, that they are reported again at this time.

Illustrations are furnished in part by the manufacturer and have also appeared in other surgical literature.

Dr. Butcher, F.A.C.S., certified by the American Board of Surgery, graduated from Rush Medical College in 1934. He is in private surgical practice with Richard P. Schellinger, M.D.

Technics in Principle

POSITIONING THE PATIENT for reduction of the fracture, radiography and surgery.

The single (perineal) post with sacral rest and double leg traction offers unnecessary trauma to the patient and limits x-ray exposure.

Trauma to the Perineum

Here, if the traction necessary to reduce the fracture is 75 pounds, a like pull must be made on the good leg

A procedure for hip-nailing has evolved from successes and failures of the past. It has worked well in the hands of general surgeons and has withstood the test of time.

with a total of pressure of 150 pounds on the perineum at the single post.

With the pelvic anchor sacral rest, however, the counter traction is only 75 pounds in all at the pelvis and this is divided so that roughly two thirds of this (50 pounds) is on the perineum with one third (25 pounds) on the lateral post. The other leg and opposite side of the pelvis are not involved in the traction at all. Indeed, the technic is entirely suitable for a patient who has undergone hemipelvectomy. Direct traction is applied parallel to the body axis with such lateral or medial "swing" of the leg as may be needed to bring the distal fragment of the femur in line with the proximal fragment. Correction of external rotation and restoration of the "angle of declination" are then readily accomplished.

X-ray technic

With conventional bilateral traction, the good leg lies in the plane of the lateral view and makes adequate exposure difficult and uncertain, usually requiring manual holding by, and hence x-ray exposure to, a member of the sterile team.

With the pelvic anchor technic the good leg is flexed

* The Pelvic Anchor Corporation, Rochester, New York.

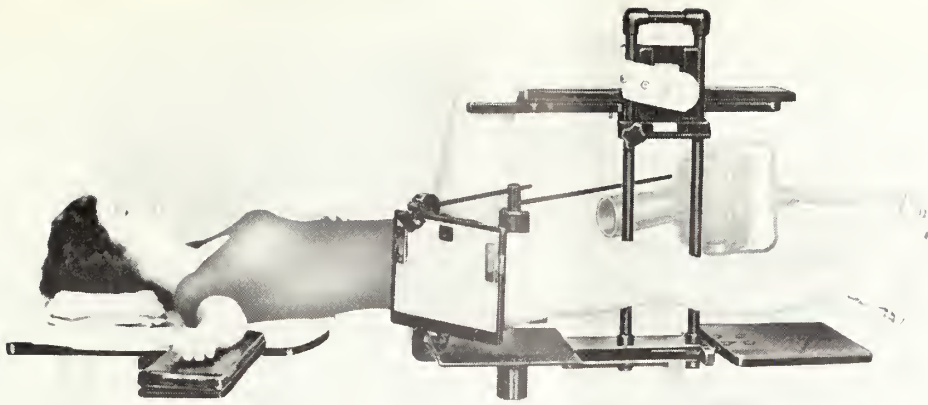


Figure 1. Pelvic anchor sacral rest with traction applied to right leg. Lateral cassette is held by clamp in top of lateral post (obscured by the cassette). Note rods on top of posts for aligning x-ray tube. The well-leg stand shown here supporting the left leg out of the way of the x-ray is replaced, on one of our tables, by a horizontal rod to which the leg is held by bandaging. The posterior cassette tray is in position but no cassette is on it.

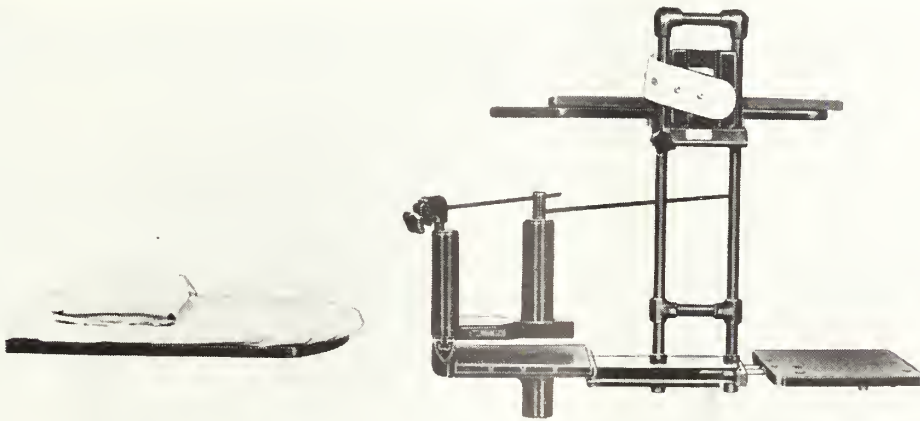


Figure 2. The apparatus assembled.

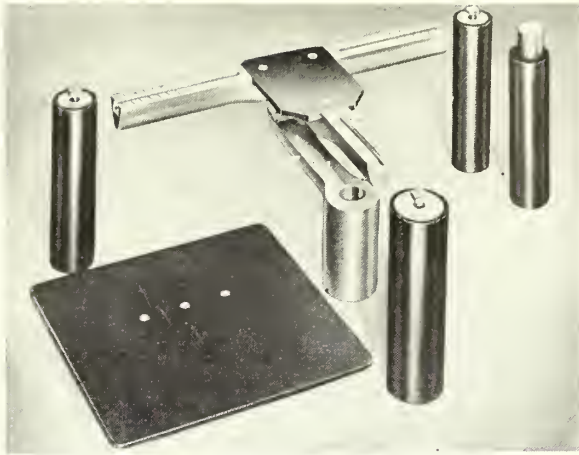


Figure 3. Parts in detail: T-50—Base casting, with sacral rest (a); cross-slot-bar (b); center-slot-bar (c); and hole (d) for posterior cassette-tray. T-51—Large diameter center post. T-52—Smaller diameter lateral posts. (Note: posts are inverted when in use.) T-53—Posterior cassette tray. T-52E is an extension post for doubling the height of a lateral post (not used in our hip technic.)

at thigh and knee, with the thigh directed vertically out of the lateral view field. A lateral cassette holder provides for accurate lateral views that are uniform on repetition, and avoids x-ray exposure of operating personnel. Uniform anteroposterior views are also assured.

Operating technics

Sterility: The conventional double leg traction technic affords adequate exposure for surgery, but because of difficulty in obtaining lateral films, contamination is more apt to occur. The pelvic anchor sacral rest with cassette holder obviates this hazard.*

TYPE OF FRACTURE

Comments to this point apply to most of the common types of hip fracture wherein the head has not been comminuted. (Comminution, in our experience, is a rare occurrence and requires a primary prosthesis.)

Neck fractures

The lack of blood supply to the femoral head in high neck fractures is the source of many failures. However, in reply to those who argue for a prosthesis in all neck fractures, it is our experience that a considerable percentage of patients that can be otherwise physically rehabilitated and ambulatory, will get solid union from a simple reduction with intentional slight valgus deformity, fixed by a long (5 inch) Smith-Peter-

sen nail directed obliquely. This nailing procedure is a simple one with less hazard to a patient, often already debilitated, than is the more formidable insertion of a prosthesis, especially in the hands of the general surgeon.

Failure, due to detracting of the nail in a few instances, has led us to employ a transverse screw placed 1 cm distal to the head of the nail to limit detracting. A spring device is also available for this purpose.

Where the proper slight degree of valgus deformity has been obtained the head tends to become "set" on top of the proximal rim of the neck. Muscle contraction then, ideally, leads to impaction which stabilizes the fragments. The nail bears none of the "weight" caused by the muscle pull and merely serves to keep the shaft from slipping sideways beneath the head. For this purpose the direction of the nail forms a more acute angle with the shaft than does the neck itself. This means that the nail enters the lateral cortex of the femur farther down the shaft (5 cm distal to the greater trochanter) and is directed up, and in, along the inferior surface of the marrow canal of the neck, to enter the head near its central portion, just medial to the upper margin of the fractured neck. With impaction, plus bone absorption along the fracture line, shortening of the neck occurs. A nail fixed in position may then penetrate into the acetabulum, hence, the 1 cm allowance before the detracting nail encounters the cross-screw distal to it. Further detracting in one instance led to bending the screw but a satisfactory result followed.

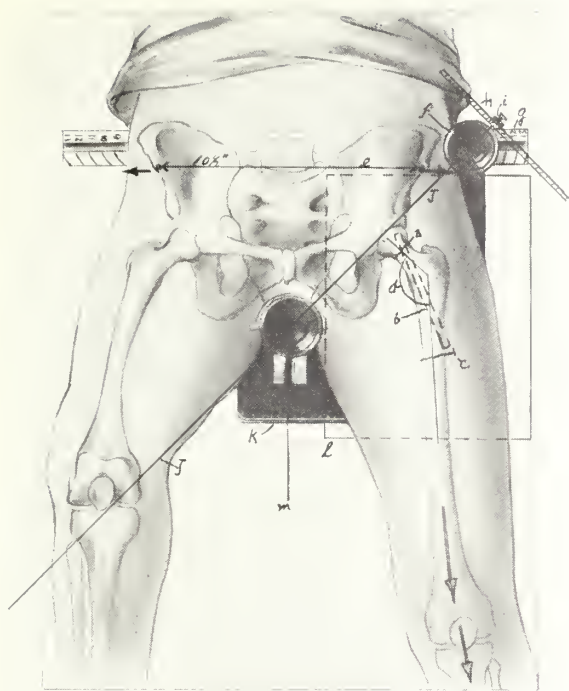
If his general condition permits, the patient is out of bed in a wheel chair the first or second day after surgery. Flexion at the knee is encouraged at the start, and in a week or less, if he is able to use them, a walker and crutches are begun.

Since almost no callus is seen in the follow-up x-ray studies in neck fractures, the maintenance of position is our main guide. Weight-bearing is not permitted under 10 months, although the patient is taught to put the foot to the floor with a pressure of some 20 pounds to 30 pounds, equivalent to the weight of the leg itself, thus leaving virtually zero pressure at the fracture site. This early floor contact is reassuring to the patient and by maintaining motion and function at the knee, ankle, and foot, helps to avoid atrophy and stiffening.

Intertrochanteric fractures

Here the blood supply to the proximal fragment is good and union is the rule. Positioning, reduction, x-ray technics, and operative procedure are as for neck fractures except that a shorter nail is inserted higher on the shaft (approximately 2.5 cm distal to the greater trochanter) and the nail directed along the neck into the head at the angle formed by the neck itself. A locking plate and screws secure the fragments in position. A small reverse "locking bolt" inside the main bolt that holds the plate to the nail is desirable to prevent the bolt becoming unscrewed as the leg moves. We have had this disengagement occur before the reverse locking bolt was used.

* The manufacturers offer a sterile draping technic which provides for sterile posts and lateral cassette holder. In our personal experience this has not been used, and it is our impression that it is unnecessarily complicated.



← Figure 4. The functioning unit.

(a) Fracture at neck of left femur reduced by direct traction. Ideally, this should show a slight valgus deformity so that head would "sit" on neck and would tend to impact with muscle contraction, rather than to slide past.

(b) The Smith-Petersen nail (dotted lines), lying along the medial cortex of the femoral neck, then impales the head more nearly centrally so as to prevent its sliding sideways. It is not the function of the nail to bear weight in a neck fracture.

(c) The cross-screw prevents detrusion of the nail while yet allowing for impaction and shortening of the neck. (For an intertrochanteric fracture the nail enters the femoral shaft nearer to the greater trochanter and in line with the canal in the femoral neck. The addition of a locking plate then stabilizes the fracture and some degree of "weight" is borne by the nail.)

(d) The "angle of inclination" made by neck and shaft as seen in A-P view. (See also Figure 5 (d) for "angle of declination" seen in lateral view here. The femoral condyles lie in a horizontal plane.)

(e) Interspinous diameter, measured in inches, determines the corresponding position of lateral post (f) on slotted cross-arm (g) which is marked in half-inches. It is our practice to set the center post a little higher so that the interspinous line overlies the transverse groove. This puts the lateral crest of the ilium in a position to slightly overlap the lateral post. The posts have bolts and heads that slide in the slots in the anchor and are tightened by turning the post.

(h) The lateral cassette holder is held in this position by the clamp (i) on the guide-rod (j) that fits into grooved plugs set in the tops of the posts. The rod passes beneath the right thigh and knee. This rod then provides an unvariable guide for positioning the x-ray machine for the lateral view. The posts are semi-transparent and show as faint shadows on the film. They should super-impose; the shadow from larger center post is quite wide and encloses that of the lateral post (see Figure 7).

(k) Posterior cassette tray with cassette (l) in place beneath hip. Note that the head of the femur lies midway between the two posts. Film positioning is thus reliable in both lateral and A-P views.

(m) Center slotted bar.

Technic at the Operating Table

ANESTHESIA

Patient arrives at operating room in own bed where general anesthesia is induced.

POSITIONING

Patient is then lifted onto the operating table. This can be a fracture table, or, with the aid of a few extra items of equipment, an ordinary operating table may be used.

The pelvis rests on the padded sacral rest, the anterosuperior iliac spines are brought directly above the slot in the cross-arm, and the central perineal post is moved up to press firmly against the ischial tuberosities and perineum. Posts are padded to prevent injury.

The distance between the anterosuperior iliac spines is measured in inches and the lateral post is moved in along the slot until its outer margin corresponds to that number marked on the cross-arm. At this point the lateral iliac crest rides just above and medial to the lateral post. This fixes the pelvis with respect to the pelvic anchor, and traction will not displace it. No lateral post is used on the side of the good leg. The length of the good leg from anterosuperior iliac spine to medial malleolus is measured and noted for later comparison as traction is applied to the injured leg.

The foot on the injured side is padded and bound in the foot rest. The good leg is flexed at the thigh

and knee and held with the thigh vertical by wrapping the lower leg to a horizontal bar or strapping it to the leg rest provided by the manufacturers for this purpose.

Traction is now applied until the injured leg measures about 1 cm longer than the good one. (We rely chiefly on the "feel" of tension involved—legs aren't always the same length before fracture.)

The usual outward rotation is corrected by rotating the foot rest and knee simultaneously until the femoral condyles reach a horizontal position.

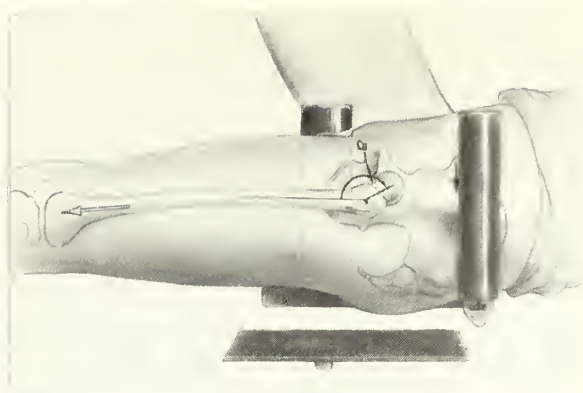


Figure 5. Lateral view, as in Figure 4 (d), showing angle of declination.

The angle of "declination" is the angle the neck makes with the shaft as seen in the *lateral* view. It is now restored by upward pressure at the knee and simultaneous downward pressure on the upper femur. (For the right leg the operator's left forearm rests on the upper thigh and this hand passes medially around and under the knee to lock fingers with the right hand to effect the manipulating.) The lateral cassette holder and guides are now inserted in the tops of the posts. This holder makes it possible to provide uniform lateral views while avoiding x-ray exposure of personnel. Technic in our hands is, to this point unsterile.

X-rays, anteroposterior and lateral, are now taken while the surgeons scrub and gown and the operative field is prepared and draped and secured with towel clips; minor corrections of reduction, over-pull, etc., are still possible without contamination.

Incision is made (when x-rays confirm the reduction) and consists of a lateral longitudinal incision through skin, fascia lata and muscle, to bone, starting at the greater trochanter and running distally some 14 cm (more if a long plate is used).

With the femoral shaft exposed, and using a Bennett retractor anteriorly, the operator places the tip of his index finger up along the lateral side of the femoral shaft to where the finger tip is stopped by the muscle insertion at the greater trochanter. The proximal interphalangeal joint of the finger now marks the point 5 cm distal where a one-quarter inch drill hole is made (for neck fractures), the point of the drill being directed toward the head of the femur which lies just half-way between the two posts of the pelvic anchor. The blunt end of a Steinman pin ($\frac{3}{32}$ " dia.) is then passed through the drill hole and into the head of the femur and x-rays taken to confirm its location. Adjustments are made as necessary and when length of insertion and the position of the pin are satis-

factory a reamer, having the same diameter as a Smith-Petersen nail, is used over the pin, and the hole is thus enlarged to the desired size and direction. A Smith-Petersen nail (usually 5 inches long, give or take one-quarter inch) is then inserted over the pin and its position confirmed by x-ray. It should be noted that the level of the hole (5 cm distal to the greater trochanter) requires a greater obliquity than that of the neck of the femur. As a result, the nail (with two flanges downward) rests along the inner wall of the inferior side of the neck which thus serves as a fulcrum, and then extends on up into the central portion of the head in its chosen position of slight valgus deformity, and to within about one-quarter inch of the cortex of the head.

A cross-screw inserted in the shaft of the femur 1 cm distal to the head of the nail and left protruding allows for shortening of the neck as impaction occurs, and yet prevents detracting of the nail. Closure of the wound in layers completes the operation. Normal range of motion should now be present.

The management of intertrochanteric fracture differs in certain respects as noted earlier. These include insertion of the nail, directed along the course of the neck, plus a fitted locking plate with five or more screw holes, and a second reverse-thread locking bolt. A good plate-bender that clamps the plate so as not to bend it at a screw hole is needed.



Figure 6. A-P x-ray view (note margin of center-post at lower right).

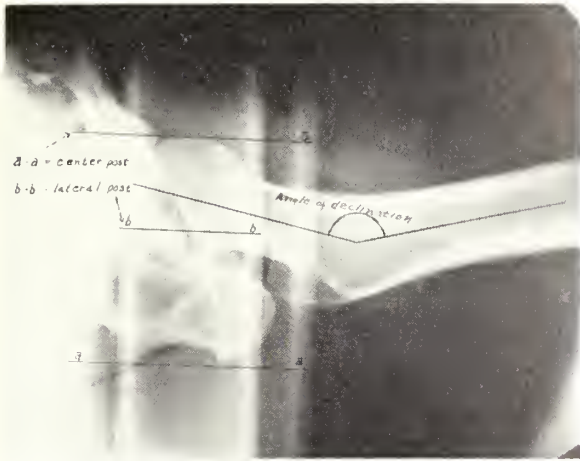


Figure 7. Lateral x-ray view (note that shadow of lateral post is centered between the walls of center post).

Summary

In brief, the steps in each technic are as follows:

Measure good leg for correcting length of injured leg in traction.

Measure distance across anterosuperior iliac spines in inches.

Anesthetize patient.

Move patient onto pelvic anchor sacral rest.

Adjust center post so that anterosuperior iliac spines are over grooves in cross-arm of the anchor.

Set lateral post at point on cross-arm that corresponds to diameter found in No. 2 above.

Suspend good leg with thigh and knee each flexed to a right angle.

Wrap foot on injured leg onto foot rest in external rotation.

Apply traction to desired length as in No. 1 above.

Correct rotation.

Correct angle of declination.

Insert guides and lateral cassette holder.

Take films—A-P and lateral.

Surgical sterile preparation and drapes.

Check x-rays and correct reduction as necessary.

Make incision and expose femur.

Drill hole toward head of femur and insert Steinman pin.

X-rays—A-P and lateral.

Check films and correct position of pin as necessary.

"Ream" hole for nail.

Insert nail.

X-rays—A-P and lateral.

Adjust nail as necessary.

Insert cross-screw for neck fractures; locking plate for intertrochanteric fractures.

Close incision.

Conclusions

The advantages of the foregoing technics using the pelvic anchor sacral rest include:

Positive reduction of the fracture with less perineal trauma.

Dependable x-ray films in both A-P and lateral views.

Operating time and trauma have in our experience been notably diminished.

Comment

A clinical impression has been gradually evolving to the effect that early operation (in the first 12 hours or less) may be of benefit. Complications such as pulmonary embolism, pulmonary congestion, surgical shock, prolonged postoperative weakness and in-coordination, and decubitus seem to occur with greater frequency when surgery is relayed more than 24 hours for such vague reasons as "letting the patient get over his initial shock" and "permitting time for medical study and evaluation," which may take the form of neglect as delay is occasioned for the convenience of the operating team. Medical evaluation is essential—but it can be done in a few hours.

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2. Kellsey, David C., and Bush, Leonard F.: "The operative treatment of fractured hips with the aid of the pelvic traction apparatus, *The Jour. of Trauma*, vol. 3, No. 2:133, Mar. 1963.

TUBERCULOSIS—GOING, GOING . . .

As a result of the widespread use of the antituberculous drugs, the mortality from tuberculosis has decreased sharply, and the length of hospital stay and the relapse rate have also greatly decreased. Of all the people who have ever lived, more have died of tuberculosis than of any other disease. Our generation has been fortunate to have been given the tools with which this once dreaded disease may be eradicated. Let us not fail to use them wisely.—A. C. Cohen, M.D., in *Pennsylvania Medical Journal*, 67:2 (Feb.) 1964.

Post Partum Hemorrhage

Due to Hypofibrinogenemia Associated With Abruptio Placenta: A Summary of Three Cases

DAVID L. TRAYLOR, M.D., and
MARVIN D. SNOWBARGER, M.D., Emporia

HYPOFIBRINOGENEMIA (afibrinogenemia, fibrinogenopenia) has been reported as a complication of many clinical conditions including several types of malignancies, general surgery, burns, etc., but most commonly in obstetric complications. Premature separation of the placenta is the obstetric complication with which it is most often associated, the incidence in abruptio is variously estimated at 3 to 40 per cent.

We would like to summarize three cases which were diagnosed as post partum hemorrhage due to hypofibrinogenemia associated with abruptio placenta. This diagnosis was made on the basis of their clinical course and, unfortunately, could not be substantiated completely by laboratory studies. This was in part due to the fact that two of the patients were not in shape to allow the delay that would have been necessary for laboratory confirmation of the diagnosis.

Case Report No. 1

The first case was a 29-year-old white Gravida V, Para IV, admitted to the hospital via ambulance on February 3, 1964, at four and a half months (or less) gestation at 9:20 p.m., about one hour following the sudden onset of painless vaginal bleeding which began following a sneeze. The patient's last normal menstrual period was August 30, 1963; her prenatal course had been uncomplicated, hemoglobin 90 per cent, or 13.95 gm., hematocrit 44, blood type B positive and all other laboratory and physical findings normal at prenatal work-up on January 13, 1964. The usual menstrual interval was 45-50 days, but the uterine fundus extended 15 centimeters above the symphysis pubis on January 13, 1964; the patient had been feeling movement since January 25, 1964. There had been no previous bleeding.

The patient had called at the onset of bleeding

and accepted prescriptions for bed rest, Hesper C®, and Mephyton®. Bleeding became more profuse and the patient was advised to enter the hospital.

The patient had had a tonsillectomy and adenoidectomy, an appendectomy and four full term normal deliveries with no previous bleeding or other complications.

Physical examination: Upon arrival at the hospital large areas of the towels and blankets about the

A report of three suspected cases of hypofibrinogenemia has been presented with a brief discussion of some of the theories regarding the mechanism of the production of this condition and of its treatment.

patient were saturated, and bright blood was dripping off the ambulance cart. However, the pulse was only 64, and the blood pressure 110/60. The five foot, six inch, 117 pound white lady was pale and apprehensive, but oriented and cooperative. The uterine fundus extended 16 centimeters above the symphysis and remained contracted most of the time, but the patient didn't complain of much pain. Bleeding was sufficient to saturate six V-pads and much bed sheeting in the first 40 minutes following admission. No clots were noted following admission. Other physical findings were not unusual.

Hospital course, treatment, and laboratory data: Intravenous glucose in saline was started immediately upon admission, and blood for diagnostic studies and crossmatch was drawn and empiric treatment was begun. This included Depoprovera® 2 cc. intramuscularly, Aquamephyton® via the intravenous tubing, calcium gluconate, parenteral Vasodilan®, Leritine

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Hesper C®—National Drug Company, Philadelphia.

Mephyton®—Merck, Sharp & Dohme, West Point, Pa.

Aquamephyton®—Merck, Sharp & Dohme, West Point, Pa.

Depoprovera®—The Upjohn Company, Kalamazoo, Mich.

Vasodilan®—Mead Johnson Laboratories, Evansville, Ind.

25 mg. with Vistaril® 50 mg. intramuscularly, and elevation of the foot of the bed.

The patient was moderately to severely hypotensive from one to one and one-half hours after admission until the following morning when a cutdown was done because we had been able to give only two pints of whole blood through venipuncture needles due to infiltration. An additional two pints of blood freshly drawn from donors were given. Bleeding continued while more intravenous fluids containing Aquamephyton and calcium gluconate were given. Blood drawn upon admission never did clot, but after four or five pints of blood replacement and other medications as noted above, coagulation time was 26 minutes; "fibrinogen index, subnormal"; bleeding time, two minutes; prothrombin time, 37 per cent with control 14 seconds and patient 21 seconds; platelet count, 190,000. Two grams of fibrinogen were given and the bleeding finally lessened.

At 8:30 p.m., less than 24 hours following admission, the patient passed a 25.3 centimeter, 315 gram non-anomalous non-viable male fetus, still within the amniotic sac until through the vaginal orifice. Expulsion of the placenta was accompanied by some clots which had apparently formed retroplacentally. The fetus was not degenerated; the placenta showed gross and microscopic evidence of hemorrhage, congestion and fibrin deposition.

Oxytocics given were Pitocin® 0.5 cc. intramuscularly and Methergine® 1 cc. intravenously. Bleeding still seemed somewhat excessive so curettage and insertion of uterine packing were performed.

On the first postoperative day, the patient was weak and pale with hemoglobin 41 per cent or 6.4 grams, red blood count 1.85 million, white blood count 10,700, prothrombin time 80 per cent. Additional blood was given and the uterine pack removed. On the second postoperative day the patient developed chills and fever even though on chloromycetin therapy since the evening of surgery; the lochia was noted to be somewhat foul and purulosanguinous. Unipen was added to the therapy, and more blood was given after the onset of fever. With additional transfusions the hemoglobin was raised to 11.6 grams on the third postoperative day. On the following day a superficial thrombophlebitis was noted in the right thigh, the same extremity in which fibrinogen had been given via saphenous cut down, the laboratory reported "fibrinogen index normal." Ananase® and hot moist packs were added to the regimen. By the tenth postoperative day the patient appeared improved sufficiently for dismissal. She has remained

well except for some metrorrhagia, the last hemoglobin reported 14.3 grams.

COMMENT: This case probably represents the most common mechanism of hypofibrinogenemia in premature separation of the placenta—that is, fibrinogen depletion by the formation of extravascular retroplacental clots, dilution by reinfused serum from the retroplacental space and rapid reabsorption of water from the tissue fluid. There was nothing in this patient's case to suggest intravascular coagulation or fibrinolysis although specific tests for the latter were not done. It is obvious that there was not prolonged retention of a dead fetus, amniotic fluid embolism, sepsis prior to admission, fulminating eclampsia, nor retained placenta, other common causes of hypofibrinogenemia. The case also illustrates two of the common complications of therapy, that is, puerperal sepsis and phlebitis in the vein used for administration of fibrinogen. The use of fibrinogen in treating the patient seemed to bring dramatic improvement and was very possibly life-saving. Now, after five months it is thought unlikely that the patient will have serum hepatitis, a hazard encountered in six per cent of patients treated with fibrinogen. This patient probably has less than a six per cent chance of developing serum hepatitis as most patients having a six per cent incidence were treated with four grams of fibrinogen rather than two grams.

In hypofibrinogenemia associated with abruptio the platelet supply is often reduced so that it is less than the 190,000 found in this patient. Prothrombin time is also often prolonged, but not usually to so low a level as the 21 seconds or 37 per cent in this case, and rarely so low as to cause further bleeding because of hypoprothrombinemia.

Other changes in the complex mechanism of coagulation often found are depletion of proacelerin (factor V) and a very high proconvertin (factor VII) activity.

Case Report No. 2

The second patient was a 26-year-old Gravida III, Para II, who was Rh negative and her second pregnancy terminated with a stillborn infant due to erythroblastosis three years prior. The patient's blood type was O and her husband's A Rh positive (R_1R_1) homozygous. Her first prenatal visit was approximately eight weeks following her last menstrual period. At 18 weeks she was started on cortisone 50 mgm. daily because at that time there were several articles in the current literature describing a beneficial effect from the administration of cortisone in similar cases. At the 20th week, her serum contained anti-D albumin agglutinins 1:4 and by the 28th week this had risen to 1:32.

Vistaril®—Pfizer Laboratories, New York.

Pitocin®—Parke, Davis & Company, Detroit.

Methergine®—Sandoz Pharmaceuticals, Hanover, N. J.

Ananase®—William H. Rorer, Inc., Fort Washington, Pa.

It was planned to induce her at about 37 weeks and to be prepared to do an exchange transfusion on the infant. However, the patient was admitted at her 34th week having irregular contractions which were thought to have been precipitated by an acute gastroenteritis. An attempt was made to stop the contractions with sedation, but to no avail, and four hours after admission she was completely dilated with the head on the perineum.

She was taken to the delivery room where under general anesthesia, low forceps were applied, left midlateral episiotomy performed and a five pound seven ounce stillborn female was delivered which was severely affected by erythroblastosis. The placenta delivered immediately spontaneously along with an estimated 1,000 cc. of fluid and clotted blood. Profuse vaginal bleeding continued in spite of intravenous Pitocin and massage so the uterus was packed, an infusion started and type and crossmatch ordered. The episiotomy was repaired and the patient returned to her room in fair condition.

The bleeding continued in spite of the pack and three hours after delivery she had received three units of blood but showed increasing signs of shock. Adrenosem®, Blutene and Mephyton were administered with no effect.

Six hours after delivery her BP was 80/20, and she was started on Levophed® and additional donors were called and bled. Seven hours after delivery, a cutdown was done on an ankle vein and with blood going in both arm and leg she was returned to the delivery room and the original pack removed and the uterus explored but no defect could be found. The bleeding seemed to be subsiding so the uterus was repacked and the patient returned to her room.

It should be noted here that this patient was advised to have a hysterectomy immediately following the original packing but she was strongly desirous of bearing a child and declined.

Ten and a half hours following delivery, she began to complain of severe abdominal pain and developed severe lower abdominal tenderness. She went into profound shock with no pulse or blood pressure obtainable.

At this point the family decided that a hysterectomy might be advisable. The patient had received 11 pints of blood in as many hours to no avail. Levophed was restarted and the patient was taken to the operating room where a total hysterectomy was performed. Four additional units of blood were administered under pressure during the course of the procedure. She was returned to her room with a BP 110/76 and pulse 120.

When the abdomen was opened the uterus was a mottled gray color and grossly infiltrated with blood. There were large hematomas in both broad ligaments and retroperitoneal hematomas in both flanks but no free blood within the peritoneal cavity. The pathological diagnosis was: "Hemorrhage into the cervix and myometrium and right and left broad ligament and subserosal hemorrhage."

Her postoperative course was relatively uneventful, her maximum elevation was 101.2 on the second day, and she was afebrile by the fourth day, she was dismissed on the twelfth day, listed as in good condition and her hemoglobin reported as 83 per cent.

Case Report No. 3

The third patient was a 29-year-old Gravida VI, Para V. Her pregnancy had been completely uneventful to the beginning of the 37th week when she was awakened at 2:00 a.m. by profuse vaginal bleeding and nausea, abdominal pain, and backache. She was seen by her family physician some 45 minutes later at which time she was still passing bright blood, her blood pressure was recorded at 70/50, and no fetal heart tone audible.

She was taken by ambulance to the hospital, a distance of 30 miles, being admitted at 3:30 a.m. On admission, her blood pressure was recorded as 80/60 and pulse 134. An infusion was started and type and crossmatch ordered. Admission hemoglobin was reported as 56 per cent or 8.7 grams.

She was seen in consultation at 5:00 a.m., at which time she was still bleeding and blood pressure was 50/0. Immediate laparotomy was advised and done.

On opening the abdomen, the uterine wall was found to be intensively infiltrated with blood. A cesarean hysterectomy was performed removing the uterus at the level of the internal os. The infant was a stillborn male and the placenta appeared to have separated completely and there was a large retroplacental collection of fluid and clotted blood.

Considerably more than the usual amount of bleeding was encountered during the procedure so fibrinogen was ordered and started in the intravenous drip. At completion of the operation the bleeding seemed to be satisfactorily controlled and the patient's general condition improved and she was returned to her room with a blood pressure of 120/80 and pulse 100.

About three hours following return to her room it was noted that her entire abdominal dressing was saturated with blood. When the dressing was removed, there was oozing present along the entire line of the incision with no evidence of any clot formation. Additional fibrinogen was administered and after receiving a total of six units the bleeding sub-

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sided and from then on she had an essentially normal course, being dismissed on the eighth postoperative day.

Discussion

The exact mechanism for fibrinogen depletion has not been definitely proven and it may be brought about by several different mechanisms.

Some theorize that there is a depletion by extensive clot formation. In 1936, Diekmann first demonstrated a significant alteration of blood fibrinogen levels between women in gravid and non gravid states. He stated that excessive hemorrhage associated with severe abruptio placenta was due to depletion of blood fibrinogen. It has since been determined that some degree of fibrinogen depletion occurs in most cases of abruptio placenta, but often not to the extent to be clinically apparent.

Pregnant women have an average of 450 mgm. of fibrinogen per 100 ml. of plasma, an extremely high level. This can vary within wide margins over a comparatively short period of time ranging from 300 to 1,100 mgm. per cent. Once lowered below 200 mgm. per cent abnormal bleeding tendencies may occur.

Others theorize that fibrinogen depletion may have a circulating fibrinolytic activity as its responsible factor.

Normally there are present in the body antagonistic substances, responsible for blood clotting mechanism, in a delicate state of balance so that the formation or dissolution of clot is a physiologic process. But, allow some factor to disturb this normal balanced state and we develop a pathologic process.

Fibrinolysis is dependent on the release of tissue activator substances (normally present in body fluid and various tissues) which convert plasminogen (pro-fibrinolysin) to plasmin (fibrinolysin).

Fibrinolysis is controlled by inhibitor substance also normally present in the body which may exert their effect against either activator substances, plasminogen or plasmin.

Practical bedside observations which may be made to determine if your patient may bleed are as follows: Observe a sample of maternal blood for clotting time, character of clot and clot lysis. If clotting time is delayed or the clot fragile, the fibrinogen is decreased. Failure to get any clot may be due to low fibrinogen or to a heparin-like anticoagulant. The latter may be ruled out if a clot forms in a sample of normal blood mixed with an equal volume of maternal blood. The possible presence of a fibrinolysin may be excluded if the patient's non-clotted blood fails to lyse a clot from an equal volume of normal blood within one hour at room temperature.

The presence of either fibrinolysins or heparin-like anticoagulants is relatively rare. If fibrinolysin is present, intravenous corticosteroids along with fresh whole blood is indicated. Polybrene® or protamine sulfate is recommended for treatment of heparin-like anticoagulants. Insufficient fibrinogen is treated by blood transfusions alone in minor degrees of fibrinogen depletion, but in severe depletion additional reconstituted fibrinogen administration may make the difference between life and death for a mother and is therefore indicated even though there are some hazards.

Summary

A report of three suspected cases of hypofibrinogenemia has been presented with a brief discussion of some of the theories regarding the mechanism of the production of this condition and of its treatment.

In reviewing several of the recent articles on this condition, nowhere did we run across the supposition that abruptio placenta may be a result of rather than cause of hypofibrinogenemia. It might be interesting to know what the fibrinogen blood levels were in some of the cases of premature separation prior to the onset of the condition, but since such a study would require frequent fibrinogen determinations in a large number of pregnant women during the last trimester of pregnancy, we doubt that this information will be available in the very near future.

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Lymphoblastoma of the Testis

Report of a Case of Reticulum Cell Sarcoma

WALTER E. LUEDTKE, M.D., *Emporia*

LYMPHOBLASTOMA of the testis is a rare tumor, and the cause of it is not known. In the cases recorded in the literature, this disease ultimately has always proved to be fatal. Therefore, it would appear that lymphoblastoma of the testis represents a local manifestation of a generalized disease. This disease may not occur primarily in the testis, but this is not known definitely. However, the primary diagnosis has been made in some cases as the result of finding this tumor in the testis, but in other cases the tumor in the testis has developed months after a diagnosis of lymphoblastoma has been made as part of a generalized disease.

The age of patients with this disease varied from 32 to 67 years. The case to be reported here is in a patient aged 67 years.

In cases of lymphoblastoma of the testis the diagnosis made most frequently has been lymphosarcoma, but cases of Hodgkin's disease or reticulum cell sarcoma have also been reported. That lymphoblastoma of the testis is a rare tumor can be attested to by the fact that in 1950 Hotchkiss and Laury had collected only 21 cases of bilateral testicular tumors from the literature, and about one third of these were lymphoblastoma. Dockerty and Priestley, Mathé, Townsend, and Findlay are some of those who have recorded cases of lymphoblastoma of the testis.

Enlargement of the testis, either unilateral or bilateral, is the most common finding on physical examination. At that time tumor nodules may or may not be found in other parts of the body. The following are other signs and symptoms that may occur in patients with lymphoblastoma of the testis: hematuria, nausea and vomiting, abdominal pain, abdominal mass, fever, edema of the feet or ankles, cough, pain in the chest, stiff neck, dyspnea, and difficulty in swallowing. Enlargement of the testis, either unilateral or bilateral, is found on physical examination, and there may or may not be splenomegaly, enlargement of the peripheral lymph nodes, and hepatomegaly. In some cases of lymphosarcoma of the testis a lymphocytosis has been found in the peripheral blood.

The size of the testis varies considerably. The

lesion is usually confined to the testis, and enlargement to a diameter up to 15 cm. has been reported. The testis is firm, and on the cut surface the entire testis may be involved, or only a portion or portions may be replaced. The cut surface of the tumor varies from gray to grayish-brown or grayish-red in color, and it is quite homogeneous. In most cases the tumor

Is lymphoblastoma of the testis a local or systemic disease? A rare condition, it has so far eluded successful curative treatment.

is confined to the testis, but infiltration of the epididymis has also been described.

The findings on microscopic examination of the tumor vary according to the type of lymphoblastoma. The lesion starts in the interstitial tissue and spreads through it in varying degrees. The number of seminiferous tubules which will be found will vary, but eventually they will be absent. In lymphosarcoma the cells present will be lymphocytes, either small or large, depending on the maturity of the cells. In Hodgkin's disease one will usually find the same cells as are encountered elsewhere in Hodgkin's disease, that is—Reed-Sternberg cells, eosinophiles, lymphocytes, plasma cells, and leukocytes. In reticulum cell sarcoma there will be considerable variation in the size and appearance of the cells. Giant cells, usually polymorphonuclear or multinuclear, and often of the bizarre type, are present in varying numbers. There may also be an increase in reticulin fibers.

Case Report

This obese, 67-year-old white male first visited his local physician in June, 1964, at which time he complained of swelling of both testicles. This was accompanied by pain. Pain was first noted in the right inguinal area about July, 1963, and it gradually spread into the right testicle. In a few days thereafter the right testicle began to enlarge and it became quite hard. About one month later the left testicle also began to enlarge, and it became hard. No acute orchitis or epididymitis preceded the onset of this bilateral testicular pain and enlargement, and no history of

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trauma to either testis was obtained. The patient was in quite good health otherwise and had no other complaints. He had lost no weight and had noted no fever. No history of chronic cough or of chest pain could be elicited. The patient was admitted to his local hospital for diagnosis and treatment.

On physical examination he was found to be very obese, well developed, and very muscular. He weighed 240 pounds and stood six feet tall. He was cheerful and cooperative and appeared to be in good health. His temperature was 98.6 degrees Fahrenheit, and his pulse rate was 80 per minute, while the rhythm was regular. Peripheral lymphadenopathy was absent. The abdomen was large, soft, and obese, and it was not tender. There were no palpable masses in the abdomen, and the liver and spleen were not palpable. Examination of the abdomen was difficult because of the obesity.

The testicles were large, smooth, and firm. The left testicle was larger than the right, and measured $10 \times 8 \times 8$ cm., while the right measured $9 \times 8 \times 7.5$ cm. in size. No nodularity was noted in the testicles, and no hydrocele was present. There was 2+ enlargement of the prostate, and it was firm and rather smooth.

In the laboratory the total white blood cell count was 7,900 per cu. mm., and in the differential smear there were 63 per cent segmented neutrophils, 3 per cent non-segmented neutrophils, 31 per cent small lymphocytes, 2 per cent monocytes, and 1 per cent eosinophils. The hemoglobin was 14.5 grams (93 per cent), and the red blood cell count was 4,560,000 per cu. mm. The hematocrit was 44 per cent. The VDRL was non-reactive.

The patient was prepared and taken to surgery where a bilateral orchiectomy was performed. Both testicles were enlarged and moderately soft, and they were enclosed in their tunics. The left testicle measured $5.6 \times 7.8 \times 5.3$ cm. in size and a 11.1 cm. segment of the spermatic cord was attached to it. The epididymis of the left testicle was normal in size and appearance and not involved by tumor tissue. The right testicle measured $5.6 \times 5.9 \times 5.3$ cm. in size and a 16 cm. segment of spermatic cord was attached to it. The epididymis of the right testicle was normal in size and appearance and not involved by tumor tissue.

The cut surface of each testicle was homogeneous and varied from grayish-red to grayish-brown in color. The cut surface bulged above the surface of the cut, and each testicle was moderately soft. In no area of the cut surface of either testicle could normal parenchyma be recognized. The capsule limited the tumor in each testicle.

In the microscopic examination of both testicles

there was considerable variation in the size and appearance of the tumor cells. Most tumor cells were larger than lymphocytes, and the nucleus of each cell was enlarged and hyperchromatic. Several somewhat bizarre mononuclear giant cells were scattered through this tumor. Some rather small and atrophic seminiferous tubules were scattered through the tumor in each testis, and there was some increase of reticulin fibers in each tumor. There was no involvement of the epididymis of either testis.

A diagnosis of lymphoblastoma of the testis should be entertained in any patient in whom there is enlargement of the testis accompanied by peripheral lymphadenopathy and splenomegaly. The diagnosis is made by microscopic examination of either a biopsy of the testis or of the completely removed testis.

Treatment of this lesion varies with the findings at the time of diagnosis. If at that time the tumor appears to be limited to the testis, the treatment recommended is simple or radical orchiectomy followed by irradiation. If the testicles are found to be involved only as part of a generalized process, irradiation therapy or chemotherapy is recommended.

The prognosis is poor in lymphoblastoma of the testis, and at this time it appears that this lesion is but a part of a generalized disease. This statement may be debated, but in all of the cases recorded in the literature these patients have died.

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Lymphosarcoma of the Ileum

A Case Report and Discussion

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and J. P. BROCKHOUSE, M.D., *Emporia*

LYMPHOSARCOMA of the small intestine is a rare disease. However, after some review of the medical literature, it is not as rare as one would at first surmise. I am sure in the practice of the ordinary general surgeon it is a rarity. In 20 years of practice by one of us (S.L.V.) and 40 years of practice of the other (J.J.H.), the presently reported case is the first for either of us where a primary lymphosarcoma was found in the small bowel.

Incidence and Etiology

Lymphosarcoma is a malignancy that can be found anywhere in the body where lymphoid tissue exists. It may arise primarily in the lymph nodes and extend to surrounding lymphoid tissue, or it may arise from cells of the lymphoid type in various structures of the body and spread via lymph channels and in some instances the blood stream to other parts of the body. The presently reported case, it is felt by us, had its origin in the ileum with lymph node spread. Under our care at the present time is a patient with lymphosarcoma that apparently had its origin in the lymph node, as the femoral, inguinal, mediastinal, and cervical nodes are all involved. The site of greatest involvement is in the inguinal areas.

Tuell *et al.* reported in 1960 in two hospitals in Tacoma, Washington, of 452 beds, only one case was reported in a ten year period. This case was a primary lymphosarcoma of the ileum with an ileocolic fistula. Marcuse *et al.* found only 13 cases at Presbyterian Hospital in New York City during a 15 year period. Menue *et al.* could find only two cases in 40,000 autopsies.

Various writers report the incidence of lymphosarcoma in the small intestine varying from 25¹ to 39.7 per cent¹⁰ of all malignancies in the small bowel. Malignancy in the small bowel is considerably less

than that found in the large bowel. From the literature, it would appear that in the small bowel lymphosarcoma has its greatest incidence in the ileum, next in the jejunum, and last and least in the duodenum.

Etiology in lymphosarcoma is obscure. It can arise in either lymphoid tissue or nodes, and spread through all other lymphoid tissue of the body. Karsner suggests

A relatively rare case of lymphosarcoma of the ileum is reported with review of the literature. Surgical excision of the lesion was followed by x-ray therapy and intraperitoneal nitrogen mustard. Rapid demise and death followed demonstrating the poor response of this disease when found in the bowel.

that involvement of various organs of the body is caused from the activation of the small lymphoid aggregates throughout the body by the same factor operating throughout the entire lymphoid system rather than by actual metastasis. He states it is a systemic disease. This appears to be logical.

Age incidence is reported from 11 months to 90 years. This is for lymphosarcoma generally. Greatest incidence appears in the 30 to 50 age group. Incidence appears greater in the male than in the female, being reported by various authors as two to one up as high as five to one. It appears to be more frequent in the white race.

Symptoms and Diagnosis

No definite symptom complex presents itself as pathognomonic for lymphosarcoma in the bowel. Symptoms are mainly those of mechanical small bowel obstruction. Correct preoperative diagnosis is quite rare. Symptoms usually consist of cramping abdominal pain, anorexia, nausea and vomiting. Melena, a palpable mass, weight loss and low grade fever may also be present. Occasionally anemia and leucocytosis may be present. X-ray study is of great value in diagnosis. Abdominal flat plate will ordinarily

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suggest mechanical small bowel obstruction with dilated loops of small bowel, and fluid levels in the bowel. Occasionally intussusception or intraluminal polypoid mass with or without loss of mucosal pattern can be demonstrated by barium study.

With this symptom complex and roentgen findings one rarely can diagnose lymphosarcoma but can at least arrive at a diagnosis of mechanical small bowel obstruction with the indication for surgical intervention.

Treatment and Prognosis

Treatment of choice is surgical removal of the local lesion followed by radiation to the area and any involved lymph nodes. Approximately two thirds of the cases operated have progressed to the stage of inoperability at the time of surgery and only palliative surgery can be carried out, leaning heavily on postoperative radiation for help. Wide resection of the bowel is indicated with removal of all lymph node involvement if possible. Because of the widespread node involvement this is often impossible.

Follow-up management is individualized by the patient's general condition. X-ray therapy still would appear to give the best type of post-surgical treatment. Chemotherapy usually in the form of nitrogen mustard has been used but not with as much effect as in Hodgkin's disease.

Prognostically there is a great variance among authors. This depends on a number of factors, namely complete removal of the local lesion, extent of generalized metastasis, response to x-ray therapy and metastatic spread subsequent to surgery. Postoperative mortality has been reduced in recent years with better surgical techniques, improved pre- and postoperative care along with improved fluid and electrolyte control.

Five year survival by various authors varies from 10 to 30 per cent which would indicate a rather poor prognosis for the disease. Marcuse *et al.* found 20 cases of five year survival out of 150 cases. Bollinger and Mars found in 82 cases, 24.4 per cent dead within one year. Mestel reported 13 cases in infants and children with 11 dead within eight months after surgery. Faulkner and Dockerty reported 33 cases. Of these only three lived for five years. Allen *et al.* reported five patients who survived five years following surgery; three of these received radiation therapy and two were treated by resection alone.

Case Report

This 27-year-old male feed store operator was first seen in our office with the complaint that four and a half weeks prior to being seen he noticed upper abdominal discomfort with stomach gurgling and growling. He was first seen June 5, 1963, with abdominal examination being essentially negative. He was placed

on a bland diet, antispasmodic medication and antacid. He continued to have the abdominal discomfort with growling and soon noted cramp-like pain in the upper abdomen with generalized abdominal soreness. These symptoms were accentuated by food intake becoming more severe about an hour after eating. These symptoms could be relieved by vomiting which the patient related he induced on numerous occasions. He complained of no bloating, diarrhea, or melena. Appetite had been good until the past few days. Several pounds of weight loss had been noted within a recent period.

Physical examination revealed a 27-year-old white male not acutely ill; 60 inches in height, weighing 160 pounds. Pulse 80 and regular, temperature 98.4 degrees, blood pressure 120/80, respirations 16 and regular. The remainder of the physical examination was within normal limits except for the abdomen. The abdomen was flat, muscular and soft. No masses or organs could be palpated. No point tenderness or rebound tenderness could be made out. Bowel sounds were hyperactive with borborygmus and rushes of peristaltic sounds. Liver, kidney, and spleen were not palpable.

Laboratory revealed Hgb. 16 gms., 103 per cent; r.b.c. 5.1 million; w.b.c. 8,000; differential: 2 eos., 67 segs., 29 lymphs., 2 monos. Blood sugar 141 mgm. per cent, NPN 31 mgm. per cent, amylase 280 units with normal of 60 to 180. Bilirubin 1.2 mgm. Lipase 0.3 mgm. per cent (normal 0.3 mgm. per cent). Urine was within normal limits except the microscopic which showed eight to twelve granular casts per low power field.

Scout film of the abdomen revealed distended loops of small bowel gas in the upper quadrants of the abdomen. Upper G.I. series showed a normal esophagus, normal contour and rugal pattern and peristaltic action to the stomach. Duodenal cap filled out well and was smooth and regular. Numerous fluid levels were present in the jejunum with distended loops of bowel. A film taken at a three hour interval showed no passage of barium beyond the proximal ileum. Impression was that of complete mechanical small bowel obstruction. At the six hour interval barium had all left the stomach and had filled the loops of the jejunum. Some of the barium had trickled through the obstructed area and had arrived at the ascending colon. Distal ileum was visualized and was of normal size. X-ray impression: Incomplete mechanical small bowel obstruction in the mid-portion of the ileum. Clinical diagnosis was that of mechanical small bowel obstruction, incomplete probably due to internal hernia or regional ileitis.

The patient was prepared and taken to surgery where laparotomy was carried out through a right rectus muscle splitting incision. A moderate amount of

clear serous fluid was found intraperitoneally. A large mass in the mid-portion of the ileum was found that was obstructing the bowel. On closer examination this was found to be a malignant appearing lesion which had intussuscepted itself into the ileum for a distance of three inches. Acute inflammation was present about the mass with a considerable number of large lymph glands measuring in size from one to three centimeters being present throughout the mesentery of the small bowel. The intussusception was reduced. The growth almost completely obstructed the ileum at this point and appeared to be intra-luminal. The bowel was resected for a distance of ten inches on each side of the lesion. A wide wedge of mesentery was removed with the bowel to include the mesenteric glands. It was not felt that all the glands were removed with the resection. An end to side anastomosis was carried out with a good stomal opening obtained.

Pathological examination of the tissue revealed lymphosarcoma of the ileum and regional mesenteric lymph nodes. Microscopically there was invasion of all the layers of the ileum with tumor cells of the lymphoid series. Mucosal surface of the ileum was destroyed by the tumor tissue.

Postoperatively the patient progressed well. Levine tube decompression was discontinued in three days. The patient was discharged home in ten days after surgery to return later for outpatient x-ray therapy. One week after hospital discharge he was seen in the office with a slight abdominal distension consistent with ascitic fluid. He was hospitalized and the following day paracentesis was carried out, 2900 cc. of a yellowish, cloudy fluid being removed. Smears of this fluid showed large tumor cells of the lymphoid series. Following the paracentesis, with the needle still in place, 25 mgm. of Mustargen was injected into the peritoneal cavity before the incision was closed. One day later the patient began a septic temperature ranging up to 102 degrees. Three days after paracentesis x-ray therapy was started over the abdominal area. From this time on, there was a gradual decline in the patient's condition. Appetite became poor; septic temperature persisted. Antibiotic therapy had no effect on the temperature. Fluid returned to the peritoneal cavity. Paracentesis was repeated but was unsuccessful, it was felt, due to inflamed, matted bowel. On last admission w.b.c. were 7,900. Three weeks later w.b.c. were 28,500 with a shift to the left. Urinary examination on repeated occasions revealed albumin from one plus to four plus with numerous r.b.c.'s in the microscopic field along with granular casts. The patient expired six weeks after surgery. Autopsy permission was refused.

Discussion and Summary

Lymphosarcoma can occur at any level of the gas-

trointestinal tract but the ileum appears to be the most common site. It can start in lymph nodes and extend into the bowel or it can have its inception in the lymphoid tissue of the bowel wall. It was our feeling that our case was primary in the ileum. Enlarged lymph nodes are almost always present. The two main histological types are small cell and large reticular cell lymphosarcoma. Wide age incidence has been mentioned previously. Lymphosarcoma of the small intestine is seldom diagnosed before surgery. Mechanical small bowel obstruction is as close as one can arrive at a diagnosis. Diagnostic symptoms are those of small bowel obstruction consisting of cramping, abdominal distress, anorexia, weight loss, occasional melena, or abdominal mass.

Cures in lymphosarcoma vary but generally are poor. Rare reports are found of cures ranging to 19 years. Five year cures run from 20 to 30 per cent in reported series. Many cases have a very short postoperative course, dying within a year after surgery. Certainly x-ray therapy has the most to offer the postoperative patient. Chemotherapy is an adjunct but has not had the therapeutic effect hoped for. Nitrogen mustard appears to be the chemotherapeutic agent of choice. Our patient appeared to have little effect from the intraperitoneal nitrogen mustard or the x-ray therapy. Because of his very rapid decline, a full course of radiation was not completed. It was not determined specifically the cause of the septic temperature which persisted for the four week period until the patient's death, having no response to antibiotic therapy. Its inception immediately following intraperitoneal nitrogen mustard suggests this as a causative factor. However, it was not felt this should have persisted so long. At no time was there any leucopenia from the therapeutic dose of nitrogen mustard but rather a gradual leucocytosis as high as 28,000 w.b.c. Our patient's rapid demise was not associated with much pain. Some discomfort was experienced, it was felt, from the fluid distension of the abdomen but this was controlled with 50 mgm. of demerol occasionally.

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Uterine Carcinoma

A Case of Metastatic Adenocarcinoma of the Uterus Showing Unusual Longevity

RICHARD P. SCHELLINGER, M.D., *Emporia*

THIS PRESENTATION represents a case of adenocarcinoma of the uterus, which subsequently developed three separate sites of metastasis and has responded favorably to treatment. This woman is now alive without evidence of disease, 18 years after the initial discovery of the cancer.

Case Report

This is the case of a lady who was 58 years old when seen by her doctor on April 1, 1946, with a complaint of vaginal bleeding for one week. A D&C was done and a diagnosis of adenocarcinoma of the uterus was made. A total hysterectomy was done and the pathologist reported the cancer was limited to the uterus. No pre- or postoperative irradiation was given.

On July 20, 1949, three years later, a metastatic lesion was excised from the anterior abdominal wall. Irradiation was administered following this procedure.

On June 5, 1953, a mediastinal mass was found on a TB mobile unit x-ray of chest. A thoracotomy was done and a metastatic lesion was dissected from the left vagus nerve, left innominate vein and the anterior segment of the upper lobe of the left lung. Irradiation treatments to the chest followed.

In December, 1954, x-ray evidence of bony destruction of the pelvis was treated with irradiation.

On January 5, 1964, the patient entered the hospital because of persistent back pain following a fall. Physical examination revealed only moderate restriction of back motion. X-rays revealed no bony pathology; also an x-ray of the chest was negative.

X-rays of gastrointestinal tract, however, revealed

a soft tissue density 4 × 5 inches, overlying the lower half of the left kidney, not thought to be retroperitoneal and not exerting extrinsic pressure on the colon. There appeared to be extrinsic pressure on the greater curvature of the stomach, displacing it upward and

**An interesting case report of a patient
with a most unusual outcome following
cancer of the uterus with metastases.**

to the right. There was also displacement of the small bowel (horizontal part of duodenum and very proximal part of jejunum) to the right.

On January 13, 1964, an exploratory laparotomy disclosed no evidence of metastasis. However, a soft football-sized mass was lying in the left upper abdomen, attached only to the greater curvature of the stomach by a narrow pedicle. Another separate, softball-sized mass was lying in the mid-abdomen, attached to the mesentery. These masses were easily excised. The pathologist reported fibrolipomata *only* in both masses. The postoperative course was uneventful, and the patient was dismissed from the hospital January 28, 1964.

In summary, this is an interesting case that began as stage I cancer of the uterus (myometrial invasion only) over 18 years ago, and subsequently became stage IV (hematogenous metastasis) which has been treated with success by two modalities—surgery and irradiation.

This woman is now 76 years old, alive and well, and appears to represent a cure or an arrest of the disease process.

After searching the literature, a similar case showing this degree of longevity has not been found.

Dr. Schellinger received his medical degree from the University of Nebraska in 1949. He has been associated with T. P. Butcher, M.D., in the private practice of surgery since 1956.

PATRONIZE JOURNAL ADVERTIZERS

Congenital Nasal Defect

Atresia of the Posterior Choanae

DAVID R. DAVIS, M.D., *Emporia*

AN UNCOMMON congenital defect is obstruction of the posterior portion of the nasal airway and the nasopharynx, called the choana. This obstruction may be unilateral or bilateral, bony or membranous, varying in thickness. Other congenital defects may also be found.

Choanal atresia is rather rare in the average pediatric practice. Most instances are sporadic but some familial cases are reported.

Embryologically the mouth and nasal passages develop from invaginations which deepen caudad in the embryonic head, while the primitive foregut and its offshoot, the trachea, grow toward the head. Usually these canals meet in the nasopharynx area and fuse into the pharynx. Occasionally the septum separating the nares from the foregut fails to disappear leaving the food passage normal but the airway is obstructed.

Henri Muller (Paris) reports 17 cases of choanal atresia (14 in females), 6 bilateral and all but one of the others were on the right.

H. Diamant and J. Kinnman of Stockholm report 29 cases, 15 unilateral and 14 bilateral.

The clinical picture of the complete unilateral choanal atresia is not nearly as severe as bilateral atresia until the normal naris becomes obstructed by secretions or postural pressure. Thick secretion in the nasal cavity and unilateral excoriation of the nostril are suggestive of unilateral obstruction. Severe difficulty in breathing is encountered by manually blocking the open naris.

Usually the diagnosis of unilateral choanal atresia is not made in the neonatal period.

Bilateral atresia makes its appearance early in the neonatal period, occasionally the infant being cyanotic at birth. Cyanosis nearly always appears at feeding time. When the infant becomes excited, deep costal and sternal retractions occur, and he should quickly be placed in an oxygen atmosphere. Forcibly closing the mouth brings on cyanosis. Usually the obstruction is noted when trying to pass a nasal catheter for tube feeding.

The diagnosis is simple when one becomes aware

of the possibility of choanal atresia being present. Colored fluid injected in the nares will not appear in the pharynx and Lipiodol dropped in the nostrils pools in the posterior nares as shown by x-ray films.

H. Diamant and J. Kinnman of Stockholm used a pharyngeal tube for free airway and did early oral tube feeding. In four weeks their babies learned to breathe

A case report demonstrating recognition and correction of a congenital type defect causing respiratory distress and cyanosis.

orally. These authors used a transpalatine surgical approach for definitive correction of the bilateral atresia, surgery being done before school age. They saw nine children who had symptoms for more than 10 years before the diagnosis of choanal atresia was established.

Henri Muller (Paris) operated upon 17 patients, operating by the endonasal route in seven; by perforation in seven with two failures, and by the palatine route for four (one of whom was a previous failure by perforation).

Muller used a fine Kocker forceps endonasally, which was opened on meeting obstruction, thus tearing a thin to thick membrane. A catheter was left in the opening for one to six weeks. This was followed by dilation with esophageal bougies, Nos. 12 to 16, two to three times weekly for one month. Failures were associated with thick scar formation.

Schaffer advises an attempt at perforation as soon as the diagnosis is made, leaving a polyethylene or rubber catheter in place for a few days. If the obstruction is bony, repair should be deferred until the child is 12 to 18 months of age. Serious spells of cyanosis and choking may require immobilization of the tongue by suturing its lower surface to the lower jaw.

Case Report

The patient was a white, male infant weighing 7 lbs., 11½ oz. at birth. Delivery was normal. The family history was non-contributory. He was admitted

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to the nursery from the delivery room in good condition. Soon there was marked dyspnea with substernal retraction and cyanosis at intervals. The baby was placed in Alevaire and O₂ environment. Neo-Synephrine®,* 1/8 per cent, was placed in each nostril with slight improvement. The next morning I attempted to place an indwelling polyethylene tube for feeding, but was unable to pass the tube through either nostril. A small, curved, Kelly forceps, with moderate pressure, forced openings bilaterally to the pharynx. A No. 12 French soft rubber catheter was placed in the choanal openings torn by the forceps. After a few days the catheters were removed as they seemed to increase the respiratory difficulty.

During the following week, Nos. 12, 14 and 16 French catheters were passed through the choanal area every other day. The infant would lay with his head retracted much of the time. He became moderately cyanotic at feeding times after the tube feeding was discontinued. He was dismissed from the nursery at an age of three weeks, weighing 7 lbs., 8 3/4 oz. He continued to have some respiratory difficulty at feeding times, but the cyanosis did not recur. Regular checkups and routine immunizations were done. Respiratory difficulty was much improved. At times there would be a mucopurulent conjunctivitis, particularly on the left side. At 11 months of age the family moved to another city and the pediatrician there considered respiration quite adequate.

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(Continued from page 454)

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AMA CLINICAL CONVENTION

A scientific program attuned to the current needs and interests of the practicing physician is planned for the 18th clinical convention of the American Medical Association, next November 29-December 2 in Miami Beach.

Immunization, depression, cardiac arrhythmias, vascular occlusive diseases, emphysema, iatrogenic diseases, and hypertension are only a few of the major areas to be explored during the four-day meeting.

More than 300 physicians will participate in a full program of lectures, exhibits, motion pictures, color television, fireside conferences and breakfast roundtables.

A new feature of the clinical convention this year is a postgraduate course on obstetrics for the general practitioner. Fifteen lectures will be presented during three sessions ranging from infertility and prenatal care through complications of labor and anesthesia to postnatal care and maternal mortality. Chairman of the course is Ralph W. Jack, M.D., Miami.

The entire scientific program, with the exception of the fireside conferences and breakfast roundtables, will be held in Miami Beach Convention Hall. The modern, single-level structure, completed in 1959, is fully air-conditioned and boasts one of the finest sound amplification systems to be found anywhere in the nation. It is located just one block from the Lincoln Road shopping centers, Florida's Gold Coast and the ocean.

The popular fireside conferences, presented as a joint session of the American College of Chest Physicians and the AMA, will be held Sunday night, November 29, at the Fontainebleau Hotel. There will be 11 tables at which 50 to 60 discussion leaders will engage in an informal and free exchange of views on a variety of medical subjects.

Six breakfast roundtables are scheduled at the di Lido Hotel. Topics include cancer of the thyroid, cosmetic surgery and peptic ulcer.

In addition, 125 scientific exhibits will be on display during the meeting, including a special exhibit on fractures, and some 30 medical motion pictures will be shown in the afternoon Monday through Wednesday.

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Primitive But Effective

Herb Medicines of the Amazon Jungle

F. WILLIAM SAUL, M.D., *Emporia*

MAN'S ENDLESS search for methods of curing disease, for means of alleviating physical pain and mental anguish has brought about many miraculous and ridiculous results. It is probable that the leaf, bark, juice and roots of every plant and tree have undergone some form of investigation and application throughout the centuries that man has existed. Although the vast majority of these substances have been proved to be of no benefit medically, there are others that have withstood the rigid investigations of modern pharmacology as well as the primitive tests of trial and error. These facts emphasize the sage remarks of Sir William Osler, "The philosophies of one age become the absurdities of the next and the foolishness of yesterday has become the wisdom of tomorrow."

Our visits to the jungles of the Guianas, Peru, Ecuador and Brazil have demonstrated the impossible task of obtaining statistics regarding mortality rates, longevity, disease incidence or percentage of cures. Many of these people are seldom in contact with the activities of governmental or health agencies, and even when contacted, many parents have no knowledge of the cause of death of their children or relatives. The report of 631 cases of small pox in Rio de Janeiro during the first eight months of 1961 is a dependable figure, but the report of the total number of 978 cases throughout Brazil for the same period may not be correct. On the other hand, the estimate that approximately 90 per cent of the population in some areas of Brazil are infested by *Schistosoma mansoni* is probably a true statement.

There can be no doubt that malaria is still endemic in some areas of Brazil and South America, and that it is directly responsible for thousands of deaths and indirectly responsible for many additional fatal complications. Syphilis and gonorrhea are fairly common

in some areas as are tropical yaws, leprosy and tuberculosis. Mass vaccination for poliomyelitis has been started in some of the large cities of Brazil but the inland communities have received no protection and this virus is not influenced by any importance of its victim. Dr. Doornbos from his jungle hospital in Suriname decries the high incidence of South American leishmaniasis or forest yaws and tetanus. But there is no way, at the present time, for him to accumulate statistics regarding the number of newborn babies, born in the jungle villages along the river

While it is indeed true that the vast majority of these herbal drugs are practically worthless, others have been proven to actually be wonder herbs and the only improvements have been the refinements. Certainly there are to be found in those jungles of vegetation equal numbers that warrant further investigation.

banks, that succumb to tetanus of the umbilical cord.

Newborn babies are washed at an early age in the contaminated waters of the Marowijne and the Amazon and their lack of immunities leaves them with no protection against the floating organisms of typhoid fever and the dysenteries. The frequent contacts with the infectious sores involving the noses and mouths of those suffering from leishmaniasis, and the prevalence of the sandfly and other insects that carry this tropical disease promote the scourge. As many as 40 per cent of the inhabitants of some communities are suffering from South American trypanosomiasis or Chagas' Disease and it is very difficult to rid the thatched huts of the infected carrier "Kissing Bug." Pemphigus is recognized in North America as a very difficult ailment to treat, but in the isolated communities of these tropics, it becomes near 100 per cent fatal.

Minor ailments become major illnesses because of the complications of the widespread, serious protein deficiencies of malnutrition. This situation can be readily corrected by the provision of adequate food

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Exploration of the jungles of South America by the author, his wife and son, has been an unsponsored project for the purpose of securing information relative to the flora, fauna, facts and fiction of jungle living. Their three safaris, of two months each, have taken them into the jungles of Peru, Chile, Ecuador, Colombia, Venezuela, French Guiana, Suriname, British Guiana and Brazil.

supplemented by vitamin B, but lack of food remains the greatest problem of the lush Amazon Valley and contact of physician and patient is too infrequent to supply the needed vitamins.

The serious consequences of malnutrition, however, present a strange paradox. It is a noteworthy statement of Dr. Doornbos that some diseases of the heart, such as those associated with coronary artery disease and angina pectoris, are very seldom seen in these primitive people suffering from chronic malnutrition, anemia and parasitic infestation. There is a serious decrease in the number of red blood cells, and these types of heart diseases do not develop. This rather startling fact poses the question then that the old methods of phlebotomy or blood letting may be utilized to advantage in our heart patients who have symptoms of coronary artery disease.

The vast waterways of South America, serving as lines of communication, means of transportation and travel, and food lifelines, also supply the means of disseminating disease and death. This compares well with the record of our North American highways that produced nearly 40,000 deaths in 1960. Poisonous reptiles, insects and poisonous jungle herbs also take a heavy toll, probably somewhat equivalent to the record of the State of Illinois with 7,898 cases of accidental poisoning of children in 1961.

We were informed in the village of Boa Vista that it is a common practice in those modern Brazilian villages that are large enough to support a drug store, for the village druggist to prescribe and administer an injection of penicillin, or other injectable medication, upon the request of the patient. The cost is a few cruzeiros if the patient supplies the vial of medication and a few more cruzeiros if the druggist supplies both the medicine, syringe and needle. Many cases of infectious hepatitis have resulted from this widespread practice due to inadequate sterilization of the syringe and needle after use on an unrecognized carrier patient. This misjudgment compares favorably with that of our tattoo artists of North America who are guilty of transmitting the same disease in somewhat the same way.

The numbers of herb drugs that have been investigated by primitive and modern man are indeed countless. Some have developed into lifesaving miracle drugs, and countless others have become fascinating legends. Still others are no more useful than are many of the nostrums that are being accepted by the North American public today such as the worthless "Ambrosia of the Gods," unneeded "food supplements" and "Royal Jelly." The story of modern American quackery is no less fantastic than is the history of herb medicines and certainly much less benefit shall come of the former.

Many very effective herb drugs have been sup-

plied to modern pharmacology and many useful derivatives of these are still in use. The primitive origins of many are unknown and they have come from all corners of the world. A few of these from North America include such well known products developed first by our Indian ancestors as cascara sagrada, a common laxative; oil of chenopodium from the American wormseed used for intestinal worms; belladonna from deadly nightshade for colic and ulcer, and aspidium from male fern for intestinal worms. From Europe came mandragora, a supposedly magical narcotic used as an anesthetic and thought to produce fecundity; nux vomica from which strychnine is extracted and the famous digitalis from foxglove. Asia and India have given us chaulmoogra oil from the seed of a tree for the treatment of dreaded leprosy; peganum or wild rue for intestinal worms; the opium poppy with its opium, morphine and derivatives for the relief of pain, and the root of the hygrophylla plant, certainly an unneeded aphrodisiac. Africa and the Mediterranean have provided the cathartic senna, first used by the Arabians more than 1,000 years ago; the pomegranate and its pelletierine for tapeworms; and incassia poison, the original "ordeal bark," a violent cardiac poison. Japan has developed for the world the great protein food, soybeans, and the insect powder, pyrethrum.

This is not to advise that one should depend upon the bark of the Cinchona tree or cuprea shrub to protect against malaria while traveling in the Amazon Valley. The advantages of the modern tablet of Milibis with Aralen for the prevention and treatment of malaria are far superior and the announcement has been made this year that one intramuscular injection of CI 501 or Dihydrotriadin Metabolite of Chlor-guanide will protect an individual against malaria for a period of at least six months. This noteworthy advance may eventually result in the elimination of this most prevalent disease which is today the chief cause of death in many areas of the world.

The first materials for the successful treatment of malaria were derived from the South American *Cinchona succirubra* tree and its many similar species. These trees are native to the Andes mountains and grow almost exclusively at altitudes of 3,000 to 12,000 feet, usually on the eastern slopes of the mountain ranges. The growth is usually scattered among giant tree ferns and mountain climber vines where the humidity is very high and the mean temperature ranges around 62 degrees. The shaded, north side of the tree has the richer bark where the mosses are more likely to grow heavily.

We have recognized this tall tree with trunk almost two feet in diameter and have seen the cinchona bark for sale in Inca Indian village markets of Peru. The natives prefer to uproot the tree and then strip the

bark from the roots and stems. However, this method, of course, destroys the tree and the gatherers are encouraged to take longitudinal strips of bark from the standing tree and permit bark regrowth to take place. The native worker barks the tree usually in the rainy season by making an incision in the bark from a point as high as he can reach, downward to the ground. Another parallel incision is then made and a ribbon of bark about one or two inches wide is carefully stripped away. Damage to the cambium is avoided and the defect is covered with moss and leaves and bound tightly with fiber. In this way it is likely that new bark will reform and the margins of the bark at the defect will actually be thickened in preparation for the next stripping.

Coppicing is the method wherein a young tree six or seven years of age is cut a few inches above the ground and stripped of its bark. Several young sprouts will usually spring up and these are harvested in a similar manner when they become of age.

It is apparent that the South American Indians had been using cinchona bark for the treatment of malignant, periodic fevers for centuries before their villages and lands were overrun by the white men from Europe. The secrets of the source remained intact for more than a century longer until 1630 when Francisco Lopez de Canizares, corregidor of the Southern Peruvian province of Loxa, was treated with cinchona bark by an Indian medicine man or Jesuit priest and survived the disease and the treatment. The herb drug was named "Cinchona" a few years later in celebration of its cure of a severe attack of malaria upon the wife of the Count of Chinchona, who was, at that time, Viceroy of Peru. Francisco Canizares was so gratified for his own cure that, hearing of the serious illness of the wife of his Viceroy, he dispatched a quantity of the bark to her physician, Dr. Juan del Vega. The Jesuit missionaries soon sent quantities of this wonder bark to the countries of Europe; called it pulvis Jesuticus and received fabulous prices for the bark because of the successes and monopoly of source.

Bebeeru bark of the Greenhart tree of the Guianas and Brazil is used as a substitute for cinchona in the treatment of malaria, dysmenorrhea and excessive menstrual periods, but it is not as effective as is the quinine of cinchona. This tree is usually 60 or more feet in height and is recognized by the green coloring of its interior.

Any traveler in the Amazon Valley of South America should certainly protect himself with adequate amounts of antimalarial drugs and, in addition, should seek such protection that may be available from the malaria-carrying *Anopheles* mosquito, and the *Aedes aegypti* mosquito, vector of yellow fever. The female is the biting sex and it is necessary that

she obtain some form of human, animal or avian blood to overcome her nutritional deficiencies and enable her to produce fertile eggs. Mosquitoes are especially attracted to man, because of his high body temperatures, and apparently are attracted much more to some than to others. It is suspected that this variation is due to body odors for they are certainly allured by the odor of perspiration. The odors and carbon dioxide content of the exhaled air also serve as means of fascination.

The fact that the flight range of the *Anopheles* mosquito is usually no more than a half mile may enable the Amazon traveler to anchor his river boat at a safe distance. It has been a mystery to us why our river boat crew on the Amazon insisted upon always anchoring in the most heavily infested areas along the shore line.

One should never be without adequate mosquito netting for this material is not obtainable in the majority of the tropical villages. Most windows are without proper screen protection and the majority of homes harbor potentially dangerous mosquitoes. We were unable to purchase mosquito netting in such towns as Boa Vista, a village of perhaps 10,000, and the windows of the government hotel are totally without screen protection. Upon opening the wardrobes here in midday we were greeted by myriads of mosquitoes suddenly disturbed in their midday siestas.

One of the medical profession's oldest and most important remedies is ipecac, which comes from the roots of the low, winding shrub *Chephaelis ipecacuanha* that is indigenous to Brazil. This drug is so native to Brazil that the name Rio Ipecac has been applied by Europeans and North Americans to the Brazilian Indian drug ipecacuanha. The Brazilian Indians used the drug centuries before the coming of the white man. It was employed in the treatment of many diseases such as indigestion, in the presence of many fevers and to stimulate general health and the appetite. Its chief use, however, was and is in the treatment of dysentery and it has been proven since that it has served as one of the most effective drugs in use for centuries for the treatment of amoebic dysentery.

Following the infiltration of the Brazilian Indian by the white man of Europe, the secrets of ipecac were carried to the countries of Europe, to Paris and to Louis XIV. There was no known better treatment for amoebic dysentery than this herb drug for more than three centuries.

The Brazilian native readily recognizes the common shrub growing in the humid water-drenched jungles. He digs up the branching roots, dries them in the sun's rays and reduces them to powder. The roots are dark reddish brown, the odor is rather irritating

and readily recognized. Being quite bitter of taste and irritating to the stomach, it has become very valuable as an emetic to induce vomiting. The active principle in ipecacuanha is emetine, which has survived modern testing and has served as one of the most useful medicines in medical history.

The coca plants are a very common shrub of Peru, Bolivia and the low mountain areas of tropical South America. They require the tropical hot, wet atmosphere of the upper Amazon area. The Inca Indians used coca leaves long before the coming of the Spaniards probably in more useful ways than they do today.

It is unfortunate that many South American Indians have developed coca or cocaine addiction by chewing the leaf which they usually mix with some ashes for the alkaline content. The natives who are under the influence of the drug of coca leaves are able to perform long and arduous labors, not because the drug provides any nourishment, but because it has dulled their senses of fatigue and hunger.

These systemic effects upon the habitual coca user progress to serious mental and physical deterioration and ultimate death by some superimposed common infectious disease. Over a period of time, the native becomes emaciated and feeble, and develops nervous and muscular disabilities that cause mental disturbances and staggering movements.

The Brazilian variety of coca leaf contains about one per cent of cocaine and for centuries has been used by many wild natives in their narcotic orgies. Although the local effects of cocaine are those of a local anesthetic and are of unpleasant nature, the systemic effects are quite different. All portions of the central nervous system are stimulated, including the brain, medulla and spinal cord. The intellectual faculties are especially stimulated and this action probably accounts for many of the cocaine induced ramblings of the *shaman*. Spinal cord hyperactivity takes place and the reflexes become very quick and exaggerated. Delightful convulsions may be brought about by the action of the drug upon the motor area of the brain. Very rapid and deep breathing results from this stimulation of the medullary center.

Withdrawal of the cocaine permits severe central nervous system and muscular depression and the native may become prostrate.

It is certain that the Brazilian native has for centuries chewed or brewed his coca leaves chiefly for their systemic narcotic effect and we have seen the leaves sold by the bale in the Indian markets of Peru. However, it is also certain that he has for many centuries, and still does, use coca leaves and their cocaine for the relief of systemic and local pain. Their application upon a painful wound, decayed tooth or

throbbing infection is common experience in the Brazilian jungle today.

Cocaine and its derivatives have been very useful drugs in modern times chiefly because of the anesthetic properties. We always carry nupercaine ointment with us throughout South America for relief from the itching of insect bites and the pain of sunburn.

The coca bush grows about five or six feet tall and contains bright green leaves resembling tea leaves. The blossoms are white and the berries are red. The bush soon grows new leaves after the green ones are stripped from the branches.

Quassia amara, or bitter quassia, comes from a small tree commonly found in Suriname and Brazil. It is a well-known medicinal product that has been used as a simple bitter tonic to stimulate the appetite and possibly to promote digestion. This herb drug was first discovered or promoted by a Djuka ruler of Suriname, Quassia, who influenced its extensive use in the treatment of tropical fevers. So well known became Quassia and his product that its news reached the ears of early South America explorers, and in 1756 he was encouraged to sell the secret to a Swedish explorer, Rolander, who carried specimens of the bark to Stockholm. For centuries it was used throughout Europe for malignant fevers and as a bitter tonic.

The wood of the tree *Quassia amara* contains so much bitter tonic that it is commonly used as quassia cups or tonic cups. Cups are hand-hewn from the wood and the water drunk from the cup will, for a long period of time, retain sufficient bitter tonic to be effective as a stimulant to the appetite. Usually the tonic or solution is prepared by soaking chips or shavings in water.

A very strong solution of quassia is also useful as a fly and insect poison. Chips of Quassia wood are macerated in water, boiled and then pressed. The liquid is mixed with molasses and evaporated to the desired consistency. The flyplate or flypaper is prepared by mixing this syrup with alcohol and water, and it is fairly effective.

For the treatment of gonorrhea, bronchitis and chronic inflammations, the Brazilian and Suriname native will employ his native Copaiba, which has been recognized by the North American Pharmacopeia for many years.

This very distasteful native herb is the product of the oleoresin of the *Copaifera* or *Copaiba* tree. Its value has been misemphasized by South Americans and Europeans for more than three centuries and even today. The crude product is obtained by drilling a hole through the bark into the center of the tree and gathering the thin resin in a jar as it slowly flows from the bore. The quantities obtained from a single

tree are quite large and the thin, colorless oleoresin soon thickens into a yellow mass. For centuries, barrels of copaiba have been gathered in the jungles of Brazil, brought by canoe to the ports and shipped to North America and Europe.

The material is quite irritating to the gastrointestinal tract and the urinary structures. This irritating property probably accounts for its use and value as a laxative and diuretic, as well as in the treatment of gonorrhea and inflammatory situations.

The tonka bean or cumaru bean grows abundantly in the Guianas and Brazil. The fruit is an oblong, flat bean measuring one and a half to two inches in length. The flavor and odor resemble vanilla and the seed is quite oily, rather tasty, and is probably nutritious.

It is apparent that the tonka bean has been given numerous trials by jungle medicine men and some favorable claims are made in regard to its value in the treatment of whooping cough. However, it appears to be of most value in some imaginary situations. Should a husband or suitor show signs of losing interest in his mate, it is believed that his lust will be restored and jealousy aroused if she will bathe in water in which many tonka beans are floating. It is denied that the mild fragrance of vanilla is responsible for this attraction.

Kola nuts are the fruity nuts of several types of trees that occur commonly in Brazil and other tropical countries. The most common origin of kola nuts is from the *Cola nitida* but the Brazilian *Sterculia chica* also produces a seed that is quite similar and is used in the same manner. Kola nuts are of several colors but usually are white or red and they are quite similar to horse chestnuts or buckeyes in size and appearance.

The nuts are ground into powder and from this is made a drink that is popular because of its caffeine content. The beverages produced are similar to the Brazilian Guarana, maté or coffee. The caffeine content is quite equal to these non-alcoholic drinks and the powdered kola is often used like guarana as a general health producing tonic.

The kola nut tree also plays another health role for some of the natives who have learned the advantages of dental care. A majority of these people have very poor dental hygiene and dental caries is a widespread affliction. Malnutrition promotes dental problems and the badly damaged teeth contribute again to more food problems.

The tooth brush of the native is often a fibrous stick of wood or section of root of a fibrous tree or shrub. The stick becomes a mass of irregular, tough fibers that serve as a crude tooth brush and it may be fairly effective. The source of the stick is probably not of real importance for it is unlikely that the

medicinal value of the root will prevent dental decay. It is true that preference is shown for the use of the roots of such plants as the kola nut tree, but I doubt that there is any therapeutic effect though this problem might well be better investigated.

Brazilian Rhatany is prepared from the root of a low-growing, creeping shrub of Brazil. The root is dried and powdered and the material is commonly used by these people to treat serious and long-standing diarrhea. There is good evidence to believe that it may be quite beneficial in certain such diseases. Because of its fairly large content of tannic acid, it is often used as an astringent and sometimes is applied to bleeding wounds. It is used also in chronic stomach and bowel complaints in an effort to encourage appetite and digestion. However, it is doubtful if it is of any benefit in these latter situations.

There is no more exciting modern herb drug discovery than that of Rauwolfia. Throughout the period of time that physicians and patients have known that hypertension is a serious, common ailment of modern man, a constant search has gone on for some effective means of treatment. Modern medicine has offered some favorable therapies throughout the past several decades but, until recently, none of these had produced any really beneficial results.

From time immemorial, the root of the plant rauwolfia has been used by the South American aborigines for the treatment of many illnesses and undesirable situations. It has served sometimes as an arrow poison and again as an antidote for poisonous snake bite, or for the treatment of the ever present malaria. Probably this *chalcupa* was tried for almost every serious illness at one time or another but its value in the treatment of hypertension was really never suspected because of the lack of adequate means of making this diagnosis.

During the past ten years rauwolfia has literally jumped into prominence and the valuable preparations of antihypertensive drugs containing this herb that are on the drug shelves are legion. Almost every North American pharmaceutical company now markets a preparation containing rauwolfia for the treatment of hypertension. There can be no doubt that it is one of the most successful medicines of all time for the treatment of one of the most serious illnesses that retards modern man. For centuries, rauwolfia has grown profusely in unhidden and unremote areas of South America, almost begging to be discovered and recognized as a truly beneficial herb.

Venereal diseases are now and always have been a serious menace to the health and lives of the South American jungle inhabitants as they are in all parts of the world today including North America. Dr. Doornbos reports from Johannesburg hospital in Suri-

name that syphilis and gonorrhea are common complications. Treatment is extremely difficult even in his hospital because it is actually impossible to get proper medication to all contacts of the diseases. Diagnosis may be difficult because of the lack of proper laboratory facilities.

These people recognize their problem too but they unfortunately will, too often, rather accept the herb drug of the *shaman* or medicine man than the modern injectable of the white doctor. The useless Manaca prepared from the Brunfelsia tree is a favorite, probably because it is allowed to ferment into an alcoholic beverage before used. The resin from the Jacaranda tree provides Carobinha, and Ayuya is prepared from the bark of the root of the Derris tree. Brazilian natives in the Rio Negro region chew the root or the root-bark of the low, climbing evergreen shrub *Para sarsaparilla* or make a paste of the powder for the skin lesions of venereal disease.

Condurango has been used for centuries by these people in the treatment of venereal diseases and ulcerating skin tumors, many of which probably are due to yaws. Its value in these respects is probably nil. Because fairly large amounts of a decoction of the bark will produce violent poisoning, it has also been used to do away with one's mortal enemies.

Condurango is prepared from the dried bark of the climbing vine *Marsdenia condurango*. The vine is rather common and grows among the jungle vegetation to heights of 20 or 25 feet. The bark is merely pounded into a powder by a stone or wooden mallet and is dried in the sun and wind. It is quite bitter and aromatic to the taste when freshly prepared and this bitter taste is difficult to disguise so its value as a poison may be somewhat limited.

Guaiac is the resin of the wood of the Guajacum tree and is used in the treatment of many chronic diseases as skin diseases, syphilis, rheumatism, tuberculosis of the glands, etc. Large doses produce nausea and sweating and the substance is quite irritating to the stomach and intestinal tract.

The resin occurs naturally in the tissues of the wood and fills the tiny interspaces. The native obtains this thin fluid by tapping the tree and collecting the resin in gourd containers. Their best method is to saw the wood of the tree into short lengths of three or four feet. These are then bored longitudinally with an auger. One end of the wood is heated in the fire and the melted guaiac resin is collected from the other end in a calabash.

The material is sometimes collected by boiling chips of the wood in salt water or sea water. In this case, the resin rises to the surface as a scum and is collected by skimming off the surface.

The Djuka mothers along the Marowijne River

insist upon using an herbal preparation upon themselves following the birth of each child. It is highly probable that this practice serves some healing value. For this reason, Dr. Doornbos has not strongly opposed this method of treatment and has permitted its use even with his hospital maternity patients. This ritual consists of heating with hot rocks or an open fire, a solution of certain herbal leaves and roots in a large container. The solution is heated until hot fumes arise and the patient then squats upon the top of the container to permit the hot fumes to bathe or douche the injured genitalia. The wet, hot steam treatment is applied daily beginning the first day following delivery and is continued for many days until the wounds heal. The maternity patients at the hospital are permitted to visit the local Djuka village each day to receive this treatment. Whether or not the herbal content of the solution has any therapeutic value is certainly open to question, but the application of the wet heat, if done judiciously, may be of benefit. The doctor has at least seen no serious complications arising from this practice and has, therefore, offered no serious objection to its use.

The numbers of herbal drugs and concoctions used by the civilized and uncivilized natives of these vast jungle areas are indeed countless. Many have well-developed uses and have been acclaimed by shamans and tribesmen for centuries as being specific for certain diseases to be used under definite circumstances. Certainly there must have been some widespread coordinated method of trial and error that gave repeated indications that the bark of the root of the Cinchona tree, growing high in the Andes Mountains of Peru was useful in the treatment of the malignant fevers of tropical malaria. The dried bark of the Greenhart tree, called Bebeeru bark, was proven by the widely separated natives of the Guianas and Amazonas to be beneficial for the same illness although not so efficacious.

The tribesmen, using the same or similar herbs, in the same manner and for the same ailments or activities, are often separated by hundreds of miles of impenetrable jungle, lofty mountain ranges and even oceans. Natives everywhere were always searching for preventatives or cures for the deadly reactions of poisonous snake bites. Many varied and useless concoctions were advocated. Pliny, in the first century A.D. often prescribed Pistoria for his patients in Southern Europe. This is a species of aristolochia, and similar species of this plant have been used for centuries by the natives of Mexico and India. In Brazil, a similar species of aristolochia, called Guaco, has been used, and still is being used by those natives for treatment of snake poisoning.

This is a low-growing, twining plant with hairy branches and it is easily recognizable. The leaf of the plant is used to prepare a concoction, but when quickly needed, the horrified native chews upon the green, hairy leaf.

In Africa, the natives use the seeds from various species of strophanthus to prepare poison for their arrow and spear tips. The explorer, David Livingstone, told of this use by the tribes in East Africa near Mozambique. This plant is very closely related to another plant put to similar use in Sierra Leone in West Africa. Still other seeds from another similar plant of the same species is being used for the same purpose in the French Congo. In each instance, the action of strophanthus is that of cardiac poison resembling digitalis.

The famous, and now widely used heart drug, digitalis, is prepared from the velvety leaves of the foxglove plant which is indigenous to Southern and Central Europe. It has been used by the inhabitants of Brittany since the tenth century as one of the ingredients of a formula prepared by an old woman, now unnamed. However, in far-off, undiscovered America the same herb-drug, here named YOLOXOCHITL, or "flower of the heart," was being used for the same diseases by the Aztecs.

We learned from our host, Adolpho Brazil, the famous explorer of the Brazilian territories of Amazonas and Rio Branco, some of the legends of the

mysterious Yage. The same legends were whispered to us by other hosts in Guayaquil, Ecuador a few years ago concerning the same drug called Natema by the Jivaros Indians. The Tupi tribes of the Amazon call it Kajpi, but they are all speaking of the same South American plant that is used as a mental intoxicant by these natives.

The drug is prepared by cooking portions of the trailing, low-growing plant in water, sifting out and discarding the pulp and concentrating the solution to the desired strength by additional cooking. Almost invariably, the one to use the drug is the tribal shaman or medicine man, for the vision that appears before him may give him much prestige. After administration of the drug, he quickly begins to perspire freely, becomes very pale, trembles violently and then becomes delirious with hallucinations. His conscious intellect is inhibited and at the same time his subconscious mentality is rendered intensely active. It is anticipated that he will dream into the future or the distance and will be able to predict things that are to come and will also envision important happenings of the present that are taking place at great distances. The legends attempt to give proof to many instances of telepathic effect and information.

While it is indeed true that the vast majority of these herbal drugs are practically worthless, certainly there are to be found in those jungles of vegetation equal numbers that warrant further investigation.

PREPARATION OF MANUSCRIPTS FOR THE JOURNAL

Exclusive Publication: Articles are accepted for publication on condition that they are contributed solely to this Journal. Publication elsewhere will be subsequently authorized in the discretion of the Editor.

Correspondence: Address all correspondence relating to publication of scientific papers to the Managing Editor.

Manuscript: Type double spaced, on white paper, 8½ by 11, with one-inch margins at the top, bottom, and right, and 1½ inches on the left. Submit the original. Call drugs by their generic names. The trade names can be added, in parenthesis, if they are considered important. Keep one copy of the paper.

Footnotes and References: Use the style of the *Quarterly Cumulative Index Medicus* published by the American Medical Association, which requires, in the order given: name of author, title of article, name of periodical, with volume, pages, month—day of month if weekly—and year as follows:

4. Doe, J. E., What I Know About It, J. Kans. M. S.
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Under ordinary circumstances articles are scheduled several months in advance. Notice will be given the contributor when the article has been accepted and again before publication.

Society members throughout the state are encouraged to write up their interesting cases and submit them for publication. The editorial staff welcomes the opportunity of helping you prepare your article for the printer.

Tick Paralysis

A Brief Review of the Disease

EDWARD G. CAMPBELL, M.D., *Emporia*

FOR CENTURIES a flaccid ascending paralysis has been observed in animals as being associated with tick parasites; however, it was not until 1824 that Hovell in Australia recorded the disease as occurring in man. Todd was the first to report tick paralysis as a disease entity in North America. In early 1912 he sent questionnaires to many British Columbia doctors requesting information associating ticks with an ascending paralysis. Among the replies he received were four from doctors who had had patients with tick paralysis. Since then there has been extensive study of the disease and several excellent reviews have been written.

Although tick paralysis more commonly occurs in endemic areas of certain species of ticks, today all general practitioners and pediatricians must be aware of this disease. Rapid travel plus the duration of time required for the toxin to reach neurotoxic levels allow the parasitized patient to reach all parts of the world.

This paper presents a review of the disease, tick paralysis, and a survey of the most recent developments in physiopathology.

Distribution, Seasonal Occurrence, and Incidence

Documented cases of tick paralysis in humans have been recorded in North America, South Africa, Australia, Crete, France, and Yugoslavia. In North America two areas have had the highest incidence of the disease: (1) The Central Northwest, i.e.: Montana, Wyoming, Colorado, Idaho, Oregon, Washington, British Columbia, Alberta, and Saskatchewan; (2) Southeastern United States, i.e.: Virginia, Georgia and Florida. In all, 15 states in the United States have reported cases of this disease.

March through September is the period of greatest activity for the tick due to its mating cycle. Most cases have been recorded in April, May, and June in the Northwestern United States, with June and July being the peak incidence months in the Eastern United States.

Rose, in a review of 332 cases of tick paralysis in

the Pacific Northwest, found an incidence of 39, or 11.7 per cent, deaths. The disease occurred most frequently in children to the age of ten. Sixty-four per cent of the children affected were girls, even though boys spent more time playing outside in tick infested areas. As the scalp and neck were the commonest sites for attachment of ticks—in only 37 per cent of the cases was attachment on other sites such as axilla, groin, and beneath the female breast—the excess scalp hair of girls may help explain the incongruence in the sex rate. No racial prevalence has been shown.

Tick paralysis is a disease produced by the feeding of common wood ticks on humans and animals. The exact "neurotoxin" has not been isolated but appears to have as its action the blocking of acetylcholine release by affecting the small diameter nerve endings at the myoneural junction. Once the symptoms of tick paralysis appear, an acute ascending paralysis, the progress becomes rapid with termination in death. Treatment consists of the removal of the tick or ticks from the patient and supportive care.

Vector

The species of tick capable of causing paralysis varies from place to place. The main offenders in Crete are *Ixodes ricinus* and *Haemaphysalis punctata*, in Yugoslavia various Ixodid ticks, in Australia *Ixodes holocyclus*, and in South Africa *Rhinicephalus simus* and *Hyalomma truncatum*. Those species most commonly involved in North America are *Dermacentor variabilis*, *Dermacentor andersoni*, *Amblyomma maculatum* and *Amblyomma americanum*.

Ticks belong in the order Acarina and the families Argasidae, or soft tick, and Ixodidae, or hard tick. The North American genera mentioned above are in the family Ixodidae. Arthropods of this family have an oval body with four pairs of six-jointed legs, a chitinous shield called a scutum which covers the an-

In family practice with K. L. Lohmeyer, M.D. and E. C. Goldsmith, M.D., Dr. Campbell received his degree in medicine from the University of Kansas School of Medicine in 1961.

terior dorsal half of the female and all of the male. Adults may be one-half inch or more in length.

Ticks have a life cycle of one to two years. Larvae hatch from oval, brown eggs in from two to seven weeks. They feed on small animals, gorging once, then drop off and molt into nymphs with four legs but without a genital pore. Nymphs may hibernate over the winter without feeding, then feed once or twice on blood, drop to the ground and molt to become adults.

Adults and nymphs spend most of the time on the ground and on shrubs. By means of a toothed probe or hypostome, ticks pierce the skin and adhere to the host whose blood they suck. Both sexes feed on blood and require a blood meal before copulation, after which the male dies. The female continues to feed from five to thirteen days, then drops off to deposit, over a period of 14 to 41 days, 2,000 to 8,000 small, oval, brown eggs.

Pathology

As would seem logical due to the rapid remission following removal of the tick parasite, no specific pathology of the peripheral or central nervous system has been demonstrated in humans. Some experimental animals, allowed to expire, have shown congestion of the brain and a fibrous exudate in the ventricles. No gross alteration or pathology has been demonstrated in peripheral nerves.

Mechanism

Although an ascending paralysis had been associated with tick parasites prior to 1926, there was general uncertainty as to what the causative agent was. Ross, in that year, states that it was impossible in his experiments to discover any causal organism in the blood or body fluids, or to transmit the disease to other dogs or experimental animals by the subcutaneous, intravenous, or intraperitoneal inoculation of blood, cerebrospinal fluid, or emulsions of nerve tissues, while the injection of the intestinal contents of ticks, which had caused fatal attacks, also had no effect. He then conducted two further experiments which tentatively prove the etiologic factor. First he removed the salivary glands from an engorged tick, prepared an emulsion with normal saline, and injected the emulsion subcutaneously into a mouse, causing the mouse to die. In a second experiment, four engorged ticks were removed from a paralyzed dog and placed in 70 per cent alcohol for five minutes. Following removal from the alcohol, the ticks were washed repeatedly in sterile saline, their salivary glands were dissected with aseptic technique; then the glands were emulsified in saline. Following straining through sterile muslin, the emulsion was

injected into a dog. The dog became febrile, ataxic, depressed, and vomited, but recovered after one day. These experiments have been used as proof for a theory of toxin secretion and release from the salivary glands of engorged ticks.

Although the toxin of the tick has not been isolated chemically, much has been demonstrated about its action. The toxin is apparently released from the tick's salivary glands as the glands become enlarged during feeding. Generally, due probably to her nature of feeding over a longer period, the gravid female is implicated. This is not always true, as some cases have been reported in which the organism removed from the patient was a male tick. Erasmus states that the essential factor in determining whether a tick will produce paralysis is the rate and stage of its engorgement, rather than sex. The common wood tick, *Dermacentor andersoni*, has caused most of the recorded cases of human paralysis in North America; therefore, this species has been used in experimental work. Gravid females have been placed on a dog, and in four to six days a paralysis of a similar clinical type as in human patients occurred. A saline extract, made by grinding 128 gravid engorged females (1 gm/1 cc) removed from paralyzed dogs, was injected into a normal dog intra-arterially and intravenously without visible effect to the dog. The release of the tick toxin over a long period of time, even if only in micro-chemical amounts, is apparently essential to cause paralysis.

The actual effect of the tick toxin appears to be at the myoneural junction where an impulse along a given nerve fails to reach the muscle to which the nerve is attached. Murnaghan demonstrated the myoneural block by utilizing a dog paralyzed by gravid female ticks of *D. andersoni*. The anterior tibial muscle of the paralyzed dog was stimulated with an electrical impulse. The size of the impulse needed to cause the anterior tibial muscle to contract in a normal unparalyzed dog was previously established. The direct stimulus caused the muscle to contract in the tick-paralyzed dog. Emmons has also demonstrated that direct electrical stimulation of the muscle causes contraction, in experiments with adult ground hogs paralyzed by the application of four to seven gravid female ticks in 18 to 36 hours. If the peroneal nerve was then stimulated directly with an electrical impulse proximal to the sciatic nerve, the impulse could be picked up by a wick electrode at points distal to the point of stimulation including at the terminus of the nerve, but no contraction of the anterior tibial muscle occurred.

Three substances have been chemically isolated and identified at a normal cholinergic synapse: (1) acetylcholine, the transmitter; (2) choline acetylase, the enzyme that synthesizes acetylcholine by transferring

acetyl groups from coenzyme A to choline; and (3) acetylcholinesterase, the enzyme that destroys acetylcholine. If Ringer's solution is perfused through muscle, acetylcholine, which is released when the nerve is stimulated, can be measured. This was done with normal muscle and tick-paralyzed muscle. The normal muscle released 6×10^{-12} gm of acetylcholine per nerve volley, but the tick-paralyzed muscle released none.

Paralyzed muscle, perfused in Ringer's solution containing four times the normal concentration of potassium, releases acetylcholine in quantities large enough to cause contraction, thus proving acetylcholine's presence. Acetylcholine, injected intra-arterially directly into tick-paralyzed muscle which has failed to contract with nerve stimulation, caused the muscle to contract. When acetyl coenzyme A and choline were injected into a paralyzed dog, they failed to counteract the paralysis.

The known nerve blocking agents—curare, decamethonium and anticholinesterases—do not give the same experimental results. Tick paralysis is intensified by curare but uninfluenced by pentamethonium. Botulinum toxin allows the muscle to respond normally to direct stimulation, and conduction in the nerve is unaffected, but the output of acetylcholine from the nerve ending is decreased. It has also been proved that by an irreversible fixation of botulinum toxin to fine nerve fibers, transmission of the impulse through these fibers is abolished; consequently no release of acetylcholine takes place, resulting in the observed neuromuscular block. Through experimentation with nerve stimulation and nerve action potentials recorded with surface electrodes in tick-paralyzed dogs, similar results have been obtained. Thus tick toxin probably exhibits a conduction block in the small diameter, terminal motor fibers.

Symptomatology

The symptoms of tick paralysis begin on the fifth to the sixth day after attachment of the tick to the victim. Initially the patient demonstrates generalized malaise, anorexia and occasionally nausea, for 12 to 24 hours. Mild diarrhea may also occur at this time. In a child the events that follow the initial general symptoms are: After an uneventful night the patient arises from bed but, when he tries to walk he either staggers, is ataxic, or falls. In a matter of hours a symmetrical bilateral flaccid paralysis of the lower extremities is evident. This is rapidly succeeded by signs of bulbar paralysis: dysphagia, dysarthria, plus lingual and facial paralysis. The cranial nerves and the structures they innervate, i.e.: sterno-cleido-mastoid, trapezius, tongue, pharyngeal and respiratory muscles, all become paralyzed. Nystagmus and strabismus are sometimes noted. Death will follow. The

entire later stages may run a course as short as 12 to 24 hours. Deep tendon reflexes are absent or diminished. There is little or no stiffness of the back. Prior to bulbar involvement there are no abnormalities of temperature, blood pressure, pulse, and rate of respiration. Blood culture, complete blood count, urine analysis, urine culture, and spinal fluid do not show any pathologic changes with tick-induced bulbar paralysis.

Swanepoel refers to the syndrome described above as generalized tick paralysis. He describes a second type, regional, in which only one body area is involved. In cases of this type the tick may be found in the external auditory meatus, and the patient exhibits a unilateral facial paralysis, or a unilateral upper extremity paralysis with the tick found in the axilla of the involved extremity.

Differential Diagnosis

Due to the overlap in seasonal incidence a diagnosis of acute anterior poliomyelitis is a common error, but the detection of the tick with an absence of spinal fluid changes should reveal the true diagnosis.

Peacock has demonstrated the complex nature of this differential diagnosis. His patient presented with ataxia, apyrexia, moderate leucocytosis, mild stiffness of the back and neck, and diffuse bilateral ascending type of paralysis. A tick was found on the patient and rapid recovery followed the removal of the tick without sequelae. At the time of admission, a stool culture for virus was taken. The stool culture was later reported positive for type I polio virus.

Gullain-Barré syndrome may also be difficult to rule out, but spinal fluid examination for protein should aid. Other diseases which may offer difficulties in diagnosis are botulism, polyneuritis, syringomyelia, spinal cord tumor, acute porphyria, epidural ascending spinal paralysis due to phlebitis, progressive necrosis of the spinal cord, post treatment with arsphenamine or sulfonamide, triorthocresyl phosphate poisoning and hemlock (coniine) poisoning.

Treatment

Following the finding of a tick on the patient, the tick must be removed quickly and properly. This is probably best accomplished by excision, to be certain all of the mouth parts have been removed. The tick should not be squeezed as this may introduce more of the toxin into the patient. Pulling on the tick's body will probably cause some of the mouth parts to remain in the site in which case the condition may persist or advance. The application of a hot object, such as a needle or a burned match head, to the posterior portion of the tick may cause it to back out spontaneously.

Other treatment is essentially supportive and palliative. If the patient is in respiratory distress, a tracheostomy or the placement of the patient in a respirator may be necessary.

Although most patients respond rapidly following removal of the tick, even to the extent of being up and outside playing in 24 to 48 hours, the prognosis should be especially guarded in cases with bulbar involvement or complete flaccid paralysis. These cases in the late disease stage may be irreversible.

An antiserum made in Australia from the serum of dogs on whom *Ixodes holocyclus* has been allowed to feed has been tried on human patients and may relieve the effects of the toxin.

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ALFRED JACKSON RETIRES

Alfred J. Jackson recently retired as president and treasurer of the State Medical Journal Advertising Bureau, Inc., but will continue his service to the State Journal Group in a consultant capacity. We are grateful for all Mr. Jackson has done during his twenty years with the Bureau and wish him well in his retirement.

It is with pleasure that we announce the election of Dr. Frank B. Ramsey as president of the Bureau to replace Mr. Jackson. Dr. Ramsey is editor of the *Journal of the Indiana State Medical Association* and chairman of the Board of Directors of the State Journal Group.

Mrs. Adelaide K. Davis has been elected treasurer of the Group. Mrs. Davis is also executive vice president and secretary and will administer the affairs of the Bureau under the direction of the Board of Directors.

The President's Message

DEAR DOCTOR:

Since the business of the Kansas Medical Society is conducted mainly by committee action there are many excellent committees of which the busy doctor has little knowledge. Being president gives one the advantage of being able to meet with these working bodies—a privilege I have been enjoying.

This was especially true of a recent meeting in Wichita with the committee on athletic injuries. Nearly 400 interested coaches and doctors were in attendance. Dr. Fuerig, the principal speaker, is director of school health at Michigan State as well as doctor for athletics at Michigan State University. He proved to be a talented speaker and, in addition, had been a professional football player with the Green Bay Packers.

Another feature of the meeting, which seemed to prove of interest to the doctors, was a panel made up of a football coach, a dentist, your president, and Dr. Fuerig. At least the questions asked by the coaches and doctors present indicated all were having a good time. This committee was originally of special interest to Dr. Barnes, your past president, and this year was ably handled by Dr. Evalyn S. Gendel.

With the end of summer many more committees will again become active. I expect to attend these when possible and hope individual members of our Society will take advantage of going to the ones of particular interest to them.



Sincerely,

John C. Mitchell, Jr.

President



Disability Determinations Unit, State of Kansas

During the fiscal year 1963 this unit handled 4,656 applications for disability benefits under the Social Security Act. Benefits were allowed in approximately 67 per cent and disallowed in approximately 33 per cent. Incident to this operation we purchased 1,597 consultative examinations from Kansas physicians at a total cost of \$68,189 for an average case cost of \$42.76 which included essential laboratory studies. By far and large these consultative examinations have been of a very high professional order and were absolutely necessary in the adjudications of the claims. The high quality of the reports enabled the State Adjudication Agency to render decisions which were only rarely returned for further consideration.

The following information pertains primarily to purchased consultative examinations and is submitted for your guidance:

By virtue of Section 1106 of the Social Security Act, confidentiality attaches to all medical and nonmedical information obtained in the administration of the old-age, survivors, and disability insurance programs, except as provided by regulations. Social Security Administration Regulation No. 1 sets forth the circumstances under which such information may be disclosed, and the persons or agencies to whom such information may be released. We are writing to suggest how you should handle requests for information about persons whom you have examined in connection with their claims for social security benefits and to advise you of the legal assistance which is available to you to help preserve the confidentiality of this information.

As provided in Regulation No. 1, medical information about disability claimants may be disclosed only for purposes related to the administration of the Act and of related programs, such as Federal pension, benefit and welfare programs and State public welfare programs receiving grant-in-aid funds under the Social Security Act. Medical information is also permitted to be released to physicians or medical institutions for treatment purposes. The patient's authorization is required in order that information may be released for any of the above purposes.

Since the confidentiality provisions of the law and regulations are applicable to physicians who examine claimants at Government expense, you may find that it will save you time and trouble to refer to this agency any requests for information about disability claimants.

The provisions of the law and regulations pertaining to the confidentiality of medical information apply even if such information is sought by subpoena. The use of subpoenas to compel release of information by physicians who have performed examinations for this program has been rare (none to our knowledge to date in Kansas). Usually, the person requesting the information is not fully aware of the provisions of the law and regulations and, upon explanation, will withdraw his request. However, if he indicates an intention to serve you with a subpoena or you are actually served with a subpoena to appear in a court or before an administrative tribunal for the purpose of testifying or producing a report of your examination of a disability claimant, please contact us at once, preferably by telephone. Upon receipt of such advice from you, we will arrange for a Federal attorney or other official to assist you in every way possible. Unless you are notified to the contrary, you should, however, arrange to appear before the body which issued the subpoena, at the appointed time. A Federal attorney will usually be present to counsel and represent you. In the rare instance where a Federal attorney may not be present, you should respectfully decline to produce any records or to testify concerning them or your examination of the claimant, directing the court's or tribunal's attention to Section 1106 of the Social Security Act and to Social Security Administration Regulation No. 1.

If you have any questions about the information given you in this report, or any comments which you wish to make about this or related matters, we will be glad to hear from you. The office address is Box 5057, Topeka, Kansas, and the telephone number is Central 5-6246.

DWIGHT LAWSON, M.D.
*Chief Medical Consultant
Kansas State Agency*

State—Atomic Energy Commission Agreement

On July 24, 1964, the Governor of Kansas, acting on behalf of the state, formally submitted material to the United States Atomic Energy Commission, requesting that Kansas be made an agreement state. This submission culminated almost a year of preparation by the State Department of Health for the responsibilities entailed under such an agreement.

Preparation for the agreement has included: additional staffing; staff training; acquisition of additional equipment; preparation of a complete program outline including legal responsibilities, staff capabilities, program procedures and regulations for the control of ionizing radiation. These regulations include provisions for licensing of radioactive material and registration of radiation producing machines.

What Is an AEC Agreement?

Under the 1954 Atomic Energy Act the AEC was given specific responsibility to develop and execute regulatory programs in the field of atomic energy. This responsibility was specifically intended to protect the health and safety of the public.

A 1959 amendment to the 1954 Act permitted the Commission to transfer to the states certain responsibilities for the regulation of the use of certain atomic energy materials. They are, specifically: by-product material (radioisotopes), source material (natural uranium and thorium) and special nuclear material (fissionable material: U235, U233 and Plutonium) not in sufficient quantity to form a critical mass.

Such a transfer is effected through an agreement between the governor of a state and the Commission. The acceptance of such an agreement is dependent upon a Commission finding that the proposed state program is adequate to protect the public health and safety and that it is compatible with the Commission's program for the regulation of like material.

Assuming acceptance of the Kansas program, this state will become the ninth state to sign such an agreement. Arkansas, California, Florida, Kentucky, Mississippi, New York, North Carolina and Texas have become agreement states.

Why an Agreement?

The Governor's Nuclear Energy Advisory Council, after evaluating the advantages of such an agreement, found that it would be in the best interest of

the state from both a health and safety standpoint and from an economic development point of view to sign such an agreement. This Council then drafted specific legislation (The 1963 Nuclear Energy Development and Radiation Control Act) and recommended to the Legislature and the Governor that this legislation be enacted. The legislation was accepted. The above Act was passed by the 1963 Legislature and became effective July 1, 1963. The Act delegated certain responsibilities to state agencies regarding economic development and delegated the responsibility for state radiation control to the State Board of Health.

It was the belief of all concerned that such an agreement would provide for a well rounded health and safety program and encourage the development of nuclear industry in Kansas.

Review of Program and Legislation

The formal document submitted to the Atomic Energy Commission by the Governor represents approximately six months' concentrated work by the Radiological Health Section and its advisors. The section personnel gratefully acknowledge the assistance given them by the Board of Health, the Board of Health's Advisory Committee on Radiological Health, the Governor's Nuclear Energy Advisory Council, Kansas Professional Societies, and State and Local Governmental agencies in the preparation of program material and regulations.

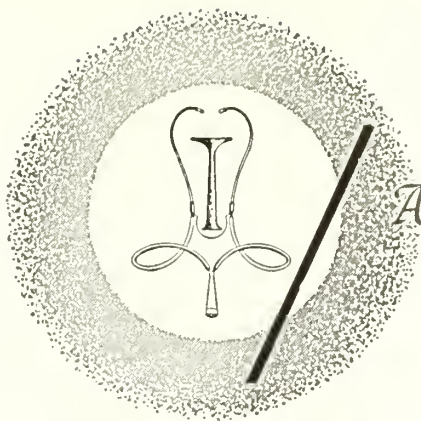
Plans are underway for a formal State-Atomic Energy Commission signing ceremony some time this fall. It is expected that the ceremony will be in the Governor's office and will include presentations by Governor Anderson and a commissioner of the Atomic Energy Commission.

A limited number of copies of the formal document submitted to the Atomic Energy Commission are available. These copies will shortly be distributed to representative groups, agencies and societies. Copies of new regulations for licensing and registration will be distributed to all interested persons sometime this fall.

Current plans call for the agreement and the regulations to become effective on January 1, 1965.

Persons wishing information on the Radiological Health Program are urged to contact the Industrial, Radiation and Air Hygiene Program, Environmental Health Services, Kansas State Department of Health, Topeka, 66612.

STANLEY J. RENO
BERNARD H. WEISS
Kansas Department of Health



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

SEPTEMBER

- Sept. 27-Oct. 2 Annual meeting of the Flying Physicians Association, Riviera Hotel, Palm Springs, Calif. Write: Flying Physicians Assn., 332 S. Michigan Ave., Chicago 60604.
- Sept. 28-30 42nd annual clinical conference, Kansas City Southwest Clinical Society. Write: Kansas City Southwest Clinical Society, 3036 Gillham Road, Kansas City, Mo. 64108.

OCTOBER

- Oct. 5-9 Annual Clinical Congress, American College of Surgeons, Chicago. Write: S. J. Harbison, M.D., Secretary, 55 E. Erie St., Chicago 11.
- Oct. 8-9 16th Annual Conference on the Kidney, New York Academy of Medicine, New York City. Sponsored by the National Kidney Disease Foundation. Contact: Robert F. Conlin, National Kidney Disease Foundation, 342 Madison Ave., New York City 10017.
- Oct. 10-14 American Society of Anesthesiologists annual meeting, Bal Harbour, Fla. Write: American Society of Anesthesiologists, 515 Busse Highway, Park Ridge, Ill.
- Oct. 11-15 VIII International Congress on Diseases of the Chest, American College of Chest Physicians, Mexico City. Write: Murray Kornfeld, Exec. Dir., 112 E. Chestnut St., Chicago 11.
- Oct. 22-24 District VII, American College of Obstetricians and Gynecologists, Birmingham, Ala. Contact: John B. Nettles, M.D., Dept. of Ob-Gyn, Univ. of Ark. Medical Center, Little Rock.
- Oct. 25 Annual scientific meeting, American College of Nutrition, Americana Hotel, New York City. Contact: Robert A. Peterman, M.D., 3 Craig Court, Totowa Boro, New Jersey 07512.

- Oct. 29-31 Symposium "Endocrines and Aging"—annual meeting, Gerontological Society, Leamington Hotel, Minneapolis. Write: Ernst Simonson, M.D., Laboratory of Physiological Hygiene, Stadium Gate 27, Univ. of Minnesota, Minneapolis 55455.
- Oct. 30-31 1st National Conference on Health Education, AMA Headquarters, Chicago.

NOVEMBER

- Nov. 16-18 Scientific meeting, Section on Otolaryngology, Southern Medical Association, Memphis, Tenn. Write: Neil Callahan, M.D., 506 Professional Bldg., Portsmouth, Virginia.
- Nov. 9-11 Scientific meeting, Interstate Postgraduate Medical Association, Pittsburgh. Write: Interstate Postgraduate Medical Assn., Box 1109, Madison 1, Wisc.
- Nov. 20-21 Annual M.D. Day, University of Missouri Medical Center, Columbia. Contact: Gail Bank, Exec. Dir., Postgraduate Medical Education, Univ. of Mo. Medical Center, Columbia.

POSTGRADUATE COURSES

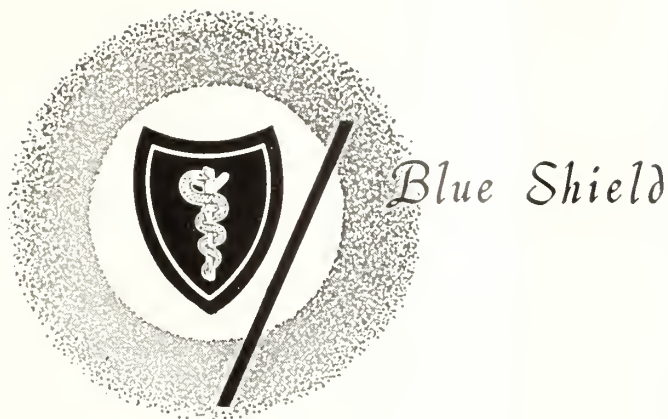
- American College of Chest Physicians.
- Oct. 26-30 *Clinical Cardiopulmonary Physiology*, Chicago.
- Nov. 9-13 *Recent Advances in the Diagnosis and Treatment of Disease of the Heart and Lungs*. Nov. 9-13, Washington, D. C. Nov. 16-20, New York City.

For more information on above courses, write to the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

University of Colorado postgraduate courses:

- Sept. 21-25 *Pulmonary Disease Seminar*
- Oct. 5-7 *Fractures*
- Oct. 22-24 *Chiefs of Staff Conference*

For further information and detailed programs write to: The office of Postgraduate Medical Education, University of Colorado Medical Center, Denver, Colorado 80262. (Continued on page 475)



Three Important Goals of the Physician Relations Department

PROCTOR REDD, Topeka

(This is the final installment in a series of three articles by Blue Cross-Blue Shield Division Directors about the activities of their division.

Several years ago Mr. Redd, Director of Hospital Physician Relations Division, Kansas Blue Cross-Blue Shield, was asked by National Blue Shield to contribute an article on professional relations to the National Bulletin. The article which follows contains excerpts from this publication. The goals discussed are still important and meaningful in Kansas Blue Shield's ongoing efforts to maintain mutually satisfying relationships with the profession that it serves.)

In 1964, Kansas Blue Shield will spend \$34,000 on its Physician Relations activities. This represents about five cents per member per year. The work of the department is primarily devoted to living up to the three important goals discussed below:

ESTABLISHING AND MAINTAINING A CLEAR AND EFFECTIVE RELATIONSHIP WITH THE SPONSORING MEDICAL SOCIETY

I would list this as the most important goal of the Physician Relations Department. The Medical Society is, in its relationship to Blue Shield, the physicians' organized method of accepting responsibility. Unless there is a close union between the Medical Society and the actions of the Blue Shield Board, the word "sponsorship" loses its meaning.

In Blue Shield we face the continuing responsibility to ask ourselves if we are providing a means

whereby our sponsor can act responsibly and intelligently on what we propose to do. In order to give meaning to the word "sponsor," it has become necessary for Blue Shield to set up an organized system of communicating officially with the governing organization of the Medical Society. Each major move that Blue Shield makes should receive specific endorsement and approval by the Medical Society through its governing procedure.

The Physician Relations Department seeks to encourage and maintain a satisfactory working relationship with the staff of the Kansas Medical Society in developing a clear basis for presenting all major matters to the Society's governing body in the manner in which the Society wishes to designate. Much of this work is done through special Society committees, such as the statewide Committee on Blue Shield Relations and the various Medical Councilor District Relations Committees which are sponsored by Blue Shield. Another KMS committee with which Blue Shield often works closely is the Committee on Fee Schedules. Major actions of Blue Shield are often brought before the Council of the Society for approval, and in some situations, even before the House of Delegates.

A good example of a recent major move being implemented through the machinery of Blue Shield's sponsor, Kansas Medical Society, is the proposed Deferred Compensation Plan. In presenting this plan to Participating Physicians, Blue Shield is carrying

out the direction of the Society. It worked this way: the idea was first presented to the Medical Economics Committee whose recommendations were incorporated into the plan's format. It was subsequently cleared with Blue Shield's District Relations Committees, then referred to the Society's Committee on Blue Shield Relations which approved and recommended the plan to the House of Delegates at their meeting last May. The House of Delegates, by resolution, directed that Deferred Compensation be presented to individual Participating Physicians throughout the state.

The procedures involved in working closely with the Medical Society may at times seem to slow down the immediate progress of Blue Shield. However, the true, long-run progress of Blue Shield depends upon the faith and confidence that Participating Physicians have in its programs. This faith and confidence can be maintained only by careful plans of action which make sure that physicians have had a real voice in Blue Shield's direction.

DEVELOPING AN EFFECTIVE SYSTEM OF COMMUNICATIONS WITH INDIVIDUAL PARTICIPATING PHYSICIANS

A Blue Shield Plan cannot rest once it has established an effective relationship with its sponsoring Society. Medical prepayment is a complicated subject and one which requires an education in depth. This is becoming increasingly true because of the many different contracts that are being written and the rapid changes that are being made. Unless the vast majority of Participating Physicians can—out of their own knowledge and experience—see that Blue Shield is performing a worthwhile service, there will develop a lethargy on their part in spite of the sponsorship of Blue Shield by the Medical Society. It is necessary, therefore, for the Physician Relations Department to develop effective methods by which information can be related to Participating Physicians as well as a basis upon which information can come from Participating Physicians to Blue Shield.

Reaching the individual physician with the story of Blue Shield is the most difficult assignment within this goal. The story of Blue Shield can perhaps be broadly divided into two parts:

(1) The philosophical base of Blue Shield.

(2) The mechanical workings of Blue Shield which affect the physician and his office procedures.

It is our feeling that the philosophical base of Blue Shield can best be relayed to individual physicians through other physicians. In fact, it would be impossible for personnel of the Plan to do this job successfully. Thus, we often seek a solution by asking committees of physicians, such as the District Rela-

tions Committees and other committees organized and appointed by both the state and local medical societies, to carry this story to their colleagues in the local areas. If these committees will accept responsibility in discussing the philosophical questions, a great deal can be accomplished in creating a broad, generalized understanding of the reasons for Blue Shield and of the support which it must receive from the medical profession in order to do the job set out for it.

Another mechanism for communicating Blue Shield's philosophical base has been the Blue Shield Symposium recently sponsored by Physician Relations. Held annually during the past two years, the symposium is a weekend meeting to which physicians who hold local and state society office, members of various Medical Society committees concerned with Blue Shield affairs, Blue Cross-Blue Shield trustees, and those belonging to various Blue Shield advisory groups are invited to hear qualified speakers as well as participate in discussions on matters of mutual interest to doctors and Blue Shield. It is hoped that those attending will, in turn, relay much of what has been communicated to their professional colleagues.

As to the second phase of our story—the mechanical side, the Physician Relations Department must find a way to present the technical information to physicians and their medical assistants so that this information can be readily referred to. Our current goal is to develop a reference manual so clear that a new secretary can find an answer to her problem as easily as she can locate a word in the dictionary. At the present time we are in the process of writing a new manual which we hope will furnish this easy and rapid reference.

Physician Relations also maintains an ongoing series of Medical Assistant Educational Meetings and a program of liaison with representatives from local medical societies, both of which are aimed at effective practical communications.

In summarizing the goal of effective communications with individual Participating Physicians, I would say that the Physician Relations Department must see that its system of communications will reach out and do what is necessary. If its system has gaps, these gaps must be closed. If the system depends primarily upon individual physicians reading long editorials or even short articles, our purpose will not be served. Physician Relations recognizes that the vast majority of physicians will not read laboriously complicated messages. When the physician has a case problem, they or their medical assistants *will* refer to a reference guide. If they find a clear answer, they will like Blue Shield. If they are more confused than ever when they find the answer, Blue Shield's rela-

tionship with them will be weakened. Our object is to provide communications that will give physicians and medical assistants a clear and concise answer to their needs.

PROVIDING PROCEDURES WHICH WILL PERMIT THE INDIVIDUAL PHYSICIAN TO RECEIVE PROPER CONSIDERATION IN UNUSUAL CASES

We all know about the best laid plans of mice and men. Even the most carefully worked out contract provisions cannot handle all of the unusual situations that arise. It is through our actions that we are largely judged by our Participating Physicians and, therefore, we must provide reassurance that every case will receive the consideration it deserves. In order to do this we must have carefully worked out machinery for handling unusual cases. In Kansas Blue Shield, we feel we have developed such machinery.

The goal of Physician Relations, therefore, is to encourage its Participating Physicians to take full advantage of this machinery's availability; for it is common experience to hear from a doctor that he reported a case and did not feel that the case was handled in keeping with its severity.

To handle this problem, Blue Shield has created the Review Committee organization. Composed of practicing physicians in various specialty fields, Kansas Blue Shield Review Committees function in three geographical areas of the state and meet at least twice a month to review and recommend on the atypical case. These committees have proved to be educational to the physicians who participate in them, and it is hoped they have provided a means by which unusual cases receive the consideration they deserve.

There is a strong tendency for any organization handling a large volume of cases to reduce the process to a mass production basis, and certainly this is proper for the vast majority of cases since they are usually routine. At the same time, Blue Shield recognizes that those cases which are not routine must be handled in a careful and delicate manner and cannot be answered satisfactorily by form letters or cold contract wording. The physician must know that we understand the circumstances of the case thoroughly and that careful consideration has been given to his remarks about the case. If it still turns out that Blue Shield did not pay his fee, a good reason for this must be given. Physician Relations tries to see that every physician knows that he has such a recourse to a review of his case, even to the extent of appearing personally before the proper committee if he wishes.

In concluding, it must be said that the three goals outlined above are not considered the only goals in a successful Physician Relations effort. There are many

more responsibilities with which the Physician Relations Department works during any given time. However, the objectives outlined above are the *basic* goals.

If Physician Relations can establish and maintain a satisfactory relationship with its sponsoring Medical Society, if effective communication with individual Participating Physicians can be developed, and if we can assure the physician that proper consideration is given to unusual cases . . . we can secure the kind of relationship which is meaningful to both physicians and the Plan that serves them.

Announcements

(Continued from page 472)

versity of Colorado Medical Center, 4200 E. 9th Ave., Denver.

Sept. 15 to June 15, 1965 Nine month tutorial program in Cardiology. Offered by Institute for Cardio-Pulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, Calif. Write: E. Grey Dimond, M.D., at the Scripps Clinic and Research Foundation, La Jolla.

Oct. 3-9 Annual *Otolaryngology* Assembly. Write: Dept. of Otolaryngology, Univ. of Illinois College of Medicine, 1853 W. Polk St., Chicago 60612.

Oct. 22-24 *Gastroenterology*—American College of Gastroenterology, New York City. Write American College of Gastroenterology, 33 W. 60th St., New York 10023.

American College of Physicians:

Oct. 5-7 *Basic Mechanisms in Internal Medicine*, Los Angeles.

Oct. 15-16 *The Physiological Basis of Internal Medicine*, Durham, N. C.

Oct. 19-23 *The Medicine of Tomorrow. Recent Advances of Immediate Clinical Interest in Molecular Biology and Other Basic Sciences*, Madison, Wisc.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia, 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

Oct. 5-9 16th Postgraduate Assembly of the Endocrine Society, The Mayo Clinic, Rochester. Fee: \$100. Write: Edward H. Rynearson, M.E., The Mayo Clinic, Rochester.



Personalities—IN KANSAS MEDICINE

Harry Last has announced his retirement after 26 years of practice in Leon. He and Mrs. Last will move to Florida in the near future.

During July, **H. O. Marsh**, Wichita, spent several days in Alaska where he served as orthopedic consultant at the Maynard-MacDougall Hospital in Nome; attended orthopedic rounds and staff conferences at the Elmendorff AFB Hospital in Anchorage, and gave a talk on back injuries to the staff of the Alaska Native Hospital in Anchorage.

Several new physicians have begun their practice in Kansas in association with Society members: William N. Haffner has joined **Dale W. Anderson** and **James L. Barber** in Augusta; Norman W. Berkley with **Roger D. Warren** at the Hanover Hospital and Clinic; R. L. Peterson with **C. C. Underwood** and **Charles Hopper** in Emporia; James S. Turner with **John Atkin** in Yates Center; and Gould C. Garcia with **Philip W. Morgan**, **Edward J. Ryan** and **John L. Morgan** in Emporia.

Robert L. McCorkle, La Crosse, attended a week-long General Practice Review at the University of Colorado Medical Center in Denver in July.

Governor John Anderson appointed **James E. Hill**, Arkansas City, to the Kansas Board of Healing Arts. Dr. Hill replaces **Robert H. Moore** of Lansing whose term expired in July.

Bill L. Gardner, Winfield, spoke on child retardation at the July meeting of the Comanche County Association for Mental Health, which was held at Coldwater.

James A. Powell has moved from Council Grove to Seattle, Washington, where he has accepted a residency in surgery at Providence Hospital.

The doctors of the Gelvin-Haughey Clinic, Concordia, were hosts at a dinner given in honor of **Leo E. Haughey** who retired in July.

H. G. Whittington, Lawrence, **Herbert Klemmer** and **Robert Haines**, both of Topeka, have been selected to serve on a committee to study mental health treatment and facilities in Kansas. The group is a subcommittee of the Kansas Committee on Mental Health and will review the results of a two-year study on mental health services in the state.

Orville R. Clark, Topeka, was recently renamed to the Board of Regents of Washburn University. Dr. Clark is serving his third four-year term.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

John W. Barry, M.D.
6100 Martway
Shawnee Mission, Kansas

Tyler E. Coomer, M.D.
603 N. Pine
Pittsburg, Kansas

Russell D. Etzenhouser, M.D.
7501 Mission Road
Prairie Village, Kansas

Robert A. Haines, M.D.
State Office Building
Topeka, Kansas

R. Roy Nixon, M.D.
St. Joseph's Hospital
Concordia, Kansas

Liam O'Brien, M.D.
Osawatomie State Hospital
Osawatomie, Kansas

Vernon W. Vogt, M.D.
Bethel Clinic
Newton, Kansas



Book REVIEWS

NURSING CARE OF THE LONG TERM PATIENT, G. E. Blumberg, R.N., P.H.N., M.S., and Eleanor E. Drummond, R.N., P.H.N., Ed.D. Springer Publishing Co., New York, 1963. 134 pages. \$2.75.

This rather small volume, flexibly bound in pocket-book format, attempts to summarize the nurse's approach to a long term patient. It is much too short to be a nursing text of any sort and the overall impression gained is that it could well have been summarized into an article of moderate length. In large part it appears to be an exposition of the philosophy of the authors as to the proper approach to any nursing problem with the suggestion that this is a good way to approach a long term patient, too. A very few, rather trite examples are given to illustrate the points made. The presentation at times is rather disjointed and piecemeal. The approach is overall on a rather simple level. Nonetheless, the style is characterized by many long words and phrases that seem to be becoming characteristic of nursing education "official-ese." Often one finds only a string of platitudes.

The book was submitted to a registered nurse working in the day to day care of long term patients, and to the administrator of a nursing home, neither of whom felt it was particularly useful.—*J.E.S.*

THE MANAGEMENT OF THE ANXIOUS PATIENT by Ainslie Meares, M.D. W. B. Saunders Company, Philadelphia, 1963. 493 pages. \$9.

If one can assume that anxiety is peculiar to the human animal alone, and that animals lower in ethnic scale are either totally free or at least show little or no anxiety, then the psychological theory of this book may seem more palatable and the explanation of anxiety as well as the need for atavistic regression to effect its release seem more important. To this review-

er, however, neither of these concepts is acceptable. However, regardless of one's psychological persuasion, this book does portray much of the doctor-patient relationship, emphasizing important points both anxiety-producing and relieving. It makes interesting reading albeit not convincing, nor instructive.—*J.A.S.*

CLINICAL EXAMINATIONS IN NEUROLOGY—THE MAYO FOUNDATION. W. B. Saunders Company, Philadelphia, 1963. 396 pages illustrated. \$8.50.

This second edition of this monograph on the clinical neurologic examination produced from the Department of Neurology at the Mayo Foundation enhances the excellence of the already well-received and highly-accepted first edition, particularly by adding a chapter on neurologic examination of the infant. There is an additional chapter on neuroradiologic procedures which, except for identifying the routine procedures, adds little. Special features portrayed in chapters on language and motor-speech, and clinical examinations for selected problems of pain remain useful additions, and the portrayal of electrical studies of neurologic diagnoses remains excellent. This book remains a very useful addition to the library of the clinician, regardless of his type of practice.—*J.S.*

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Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Ackerman, L. V. with Butcher, H. R., Jr. Surgical pathology. 3d ed. Mosby, 1964.
- Asenjo, Alfonso. Neurosurgical techniques. Thomas, 1963.
- Belknap, Ivan and Steinle, J. G. The community and its hospitals; a comparative analysis. Syracuse Univ., 1963.
- Benrheim, Hippolyte. Hypnosis and suggestion in psychotherapy . . . Trans. from 2d rev. ed. N. Y. Univ., 1964.
- Conference on Prenatal Effects of Drugs, Chicago, 1963. Report. Commission on Drug Safety, 1963.
- Davies, Jack. Human developmental anatomy. Ronald, 1963.
- Eastham, R. D. Biochemical values in clinical medicine; the results following pathological or physiological change. 2d ed. Wright, 1963.
- Eysenck, H. J., ed. Experiments in motivation. Pergamon, 1964.
- Faergeman, P. M. Psychogenic psychoses, a description and follow-up of psychoses following psychological stress. Butterworths, 1963.
- Grant, J. K., ed. The control of lipid metabolism. Academic, 1963.
- Goth, Andres. Medical pharmacology . . . 2d ed. Mosby, 1964.
- Hochstein, Elliot and Rubin, A. L. Physical diagnosis . . . McGraw-Hill, 1964.
- International Congress of Radiation Research. 2d, Harrogate, Eng., 1962. Radiation effects in physics, chemistry, and biology; proceedings. North-Holland, 1963.
- Johnson, W. R. with Johnson, J. A. Human sex and sex education; perspectives and problems. Lea & Febiger, 1963.
- Judge, R. D. and Zuidema, G. D. and others. Physical diagnosis . . . Little, Brown, 1963.
- Klosovskii, B. N. Blood circulation in the brain. Translated from Russian. Israel Program for Scientific Translations, 1963.
- Kulowski, Jacob. Accident injuries of the conjoined femur . . . Thomas, 1964.
- Larsh, J. E., Jr. Outline of medical parasitology. McGraw-Hill, 1964.
- Lorr, Maurice, Klett, C. J., and McNair, D. M. Syndromes of psychosis. Pergamon, 1963.
- McLaren, H. C. The prevention of cervical cancer. English Universities, 1963.
- Mason, A. S., ed. The thyroid and its diseases; proceedings . . . Lippincott, 1963.
- Moulder, J. W. The psittacosis group as bacteria. Wiley, 1964.
- Nager, G. T. Meningiomas involving the temporal bone . . . Thomas, 1964.
- Norris, F. H. The EMG; a guide and atlas for practical electromyography. Grune & Stratton, 1963.
- Peiper, Albrecht. Cerebral function in infancy and childhood. Trans. of the 3d rev. German ed. Consultants Bur., 1963.
- Russell, D. S. and Rubinstein, L. J. Pathology of tumours of the nervous system. 2d ed. Williams & Wilkins, 1963.
- Stammers, F. A. R. and Williams, J. A., eds. Partial gastrectomy . . . Butterworths, 1963.
- Thomas, Alexander and others. Behavioral individuality in early childhood. New York Univ., 1963.
- Torrance, D. J. The chest film in massive pulmonary embolism. Thomas, 1963.
- U. S. President's Council on Physical Fitness. Adult physical fitness; a program for men and women. U. S. Govt. Print. Off., 1963.
- U. S. Public Health Service. Division of Hospital and Medical Facilities. Procedures for areawide health facility planning . . . U. S. Govt. Print. Off., 1963.
- Weber, E. W. Mentally retarded children and their education. Thomas, 1963.
- Whittington, H. G. Psychiatry on the college campus. International Universities, 1963.
- Wolstein, Benjamin. Irrational despair; and examination of existential analysis. Free Press of Glencoe, 1962.



HOUGHTON S. ALBAUGH, M.D.

Houghton S. Albaugh, Olathe, died on August 6, 1964, at the Olathe Community Hospital at the age of seventy-one.

Dr. Albaugh was born in Loogootee, Indiana, on July 23, 1893, and lived in Olathe 32 years. He retired from practice in 1948. He graduated from the University of Kansas School of Medicine in 1919. Dr. Albaugh served in World War I and was a member of the American Legion post in Olathe. He was a past director of the Johnson County Health Department and had served as Johnson County coroner and physician for the Kansas State School for the Deaf.

Survivors are his wife, a son and two daughters.

ERNEST C. McDONALD, M.D.

Ernest C. McDonald, 82, Pittsburg, died at his home on July 29, 1964.

Born May 13, 1882, in Grayson County, Kentucky, he graduated from the University of Louisville in 1910 and practiced medicine for several years in Culverport, Kentucky, before coming to Pittsburg in 1917, where he continued practicing medicine until his retirement in 1959.

Dr. McDonald is survived by his wife, a daughter and a son.

LAURENCE S. NELSON, JR., M.D.

Laurence S. Nelson, Jr., 45, Salina, died on July 5, 1964, at St. Luke's Episcopal Hospital, Baylor University Medical Center, in Houston, Texas.

He was born on June 10, 1919, at Chanute, but lived most of his life in Salina. He received his medical degree from the University of Kansas School of Medicine in 1944. After serving as a medical officer in the Navy during World War II, he returned to Salina and practiced medicine there for 16 years.

Dr. Nelson was an active member of the Society, having served on a number of committees and was serving his second term as councilor for the Ninth District.

Survivors are his parents, wife, daughter, and two sons.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in May 1964 and 1963

<i>Diseases</i>	<i>May</i>			<i>January to May Inclusive</i>		
	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>
Amebiasis	4	30	4	10	72	27
Aseptic Meningitis	—	—	—	1	—	1
Brucellosis	—	1	1	1	6	13
Cancer	265	540	336	1,455	1,688	1,688
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	1	1	1	18	3	7
Gonorrhea	179	219	219	1,183	1,170	1,087
Hepatitis, infectious	67	18	22	364	109	285
Meningitis, meningococcal	1	1	1	5	5	8
Pertussis	3	3	3	11	26	17
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	6	43	4	65	90	20
Scarlet fever	4	20	35	65	273	396
Shigellosis	2	3	3	133	18	59
Streptococcal infections	100	73	92	1,024	761	802
Syphilis	63	114	100	398	479	494
Tinea capitis	10	1	3	44	40	47
Tuberculosis	28	13	20	111	120	114
Tularemia	1	1	1	4	6	6
Typhoid fever	—	—	—	2	—	2

TETANUS IMMUNE GLOBULIN

For those individuals who for one reason or another are not carrying around their own antibodies against tetanus by having been properly immunized with tetanus toxoid, there is now available tetanus immune globulin extracted from the blood of humans who had been fortunate enough to have been immunized against tetanus prior to becoming a blood donor.

Injury cases who need an injection of tetanus antitoxin may be treated without the risk of immediate or delayed reactions to animal-derived antitoxins. We would like to re-emphasize the desirability of everyone's being protected against tetanus through active immunization thus diminishing the possibility of indiscriminate use of this more practical antitoxin preparation. It may be of extreme value in emergencies for the unprotected.

A wife is to thank God her husband has faults;
a husband without faults is a dangerous observer.—
Lord Halifax

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Journal**



Social Security . . .

... and Workmen's Compensation Programs: Provisions Relating to Disability Evaluation

I. H. BORGES, *Baltimore, Maryland**

IN THIS BRIEF TALK on social security and workmen's compensation laws, I would like to touch upon major program provisions, certain operational facets, and the role of physicians, insofar as they deal with evaluating disabilities. The physician whose patient is a disability claimant, besides being responsible for therapy, occupies a key position to convey sound medical data so those who are legally responsible can reach a medically sound decision.

Medical reporting and testimony to evaluate disability was required in civil actions at law long before workmen's compensation laws modified certain tort actions. Legislation altered basic rights of covered injured workers, and in the process accentuated the physician's role in providing evidentiary bases for fair and sound legal decisions. The disability provisions of the social security law, enacted almost 50 years after the first workmen's compensation law, give primary consideration to the nature and extent of medically determinable impairments described in reports from physicians.

In an historical perspective both programs are recent legislative expressions of an ancient concern. Our

legal history going back, if you will, to its English sources, shows a general trend expanding liability for what was considered a "wrongful" injury. More recently, the focus was enlarged to include other socially desirable measures for alleviating the consequences of disability to the individual and his family.

Workmen's compensation programs, Social Security, and others aim at protection of disabled workers. Basis of judgments and types of reports for ratings are different, and are here contrasted. Most workers have some type of protection for loss of income when disabled.

Adequate income replacement together with a full range of vocational rehabilitation services are the vehicles more and more available to all the disabled population. Accordingly, the social and economic significance of medically sound reporting and correct decisions grows progressively.

First Social Insurance Laws

It was little more than 50 years ago that this country belatedly reflected its concern about the

* Presented at the postgraduate course on Medicine and the Law at the University of Kansas Medical Center in January, 1964. Mr. Borgen is technical advisor of the Division of Disability Operations, Department of Health, Education and Welfare.

mounting toll in human misery taken by industrial accidents. The injured worker, like any injured person, could, of course, successfully sue the tortfeasor, in this situation his employer, for damages if he could establish the defendant's negligence. This was not always easy to do. The common-law allowed certain defenses to be established by the employer—some have called them the "unholy trinity"—(1) the employee knew the risks of his job and therefore had assumed the burden of the consequences of an accident; (2) the employee was contributorily negligent; (3) a "fellow servant" contributed to the accident. If the worker hurdled these, a major issue might arise in assessing the amount of damages based on the extent of disability attributable to injury and translated into a money equivalent. Litigation was, of course, protracted, expensive and uncertain in outcome, even if the employer could meet his obligation, while the families of injured workers suffered loss of income and expense of care. "Fiat justitia, ruat cælum" says an old legal maxim.

The essence of workmen's compensation legislation was the innovation of employer liability without regard to his fault, thereby in effect making the costs of work-connected disability a proper cost of production. But these costs were to be kept in check by criteria provided for measuring compensation and the liability risk was to be spread by requiring employers to obtain insurance. Two vocal interested groups were engendered. An important branch of the insurance industry has grown up to cover compensation risks. A national organization of lawyers specializing in prosecuting plaintiffs' actions is active in educating its members to win more cases and higher awards. On this occasion I will merely mention that provision for medical care and rehabilitation are major functions of these laws and accident prevention is a concomitant where the employer is "experience rated" by his insurance carrier.¹ All these elements justify calling workmen's compensation laws the first social insurance laws in this country.

After the first workmen's compensation law was enacted near the end of the first decade of the 20th Century, each state moved into the act at its own pace. By 1920 all but six states had such laws and by 1948, it was unanimous. In comparison with the national Social Security Act, there are 54 separate and distinct workmen's compensation laws, including one in each state, the District of Columbia, and Puerto Rico, plus two federal laws which cross state lines, the Federal Employees Compensation Act and the Longshoremen's and Harbor Workers' Act. Now the Council of State Governments has drafted a model workmen's com-

pensation law which would, if enacted by all the states, make for greater uniformity in the statutory provisions. We can, however, talk about these laws as representing a program because they all embody the same fundamental principles.

Laws Vary in Different States

Different states' enactments and varying states courts' interpretations, have produced considerable diversity in specific features among the workmen's compensation laws: notably in the criteria for evaluating residual disability; amounts and duration of payments; and extent of various rehabilitative services. Illustrative of a subtle and pervasive factor on which there is wide variation is the kind and amount of control and supervision exercised over compliance and program effectiveness. Like every other program, the entire climate of workmen's compensation operations is affected by the caliber and activity of its management. This is partially explainable by the feeling that in its inception, workmen's compensation was expected to be essentially self-administering. Few workmen's compensation agencies have staff to measure their effectiveness and systematically plan improvements to meet the needs they find. Some valuable general program appraisals are made by the International Association of Industrial Accident Boards and Commissions, the Department of Labor's Bureau of Labor Standards, by interested groups and by scholars in universities. Figures on essential program features are not available from many states.

Problems of workmen's compensation have for some time now been widely discussed from many points of view. Since in practically all states the injured worker and the carrier have rather large responsibility for effective prosecution of claims, an adversary atmosphere has been engendered, which causes concern to many students and observers, even though controverted cases may be only a small minority of the total. In five states, for instance, when employee and employer or insurance carrier disagree about an injury, they go direct to court. Some feel that courts in general have been too enthusiastic in extending employers' statutory liability to situations not contemplated by the legislators. Some regret that legislatures have been too slow to respond effectively to changing social and economic patterns. Many physicians are concerned about the impact that conflicting medical testimony has on public confidence in their profession and in a controverted case their own participation may be a perturbing experience. Some physicians feel claimants become unduly "claim minded." Insurance carriers are charged with miscellaneous shortcomings.

The workmen's compensation program, for all that, plays an important and unique role in occupational

¹ However, about 75 per cent of the employers are not so rated; for example, because their payroll is below a certain amount. No figures at hand on totals of their employees.

injuries and diseases. I may mention that even in countries where drastic overhaul of social security programs has been centrally planned, special provisions are retained for work-connected injuries and diseases.

Social Security and Disability

The Social Security Act, which covers the self-employed as well as employees, was amended in 1956 to provide for disability insurance benefits in addition to old-age and survivors insurance. The amendment, almost one-half a century after the first workmen's compensation law, reflected recognition of a broader kind of social need. Under social security it is immaterial how the injuries or diseases were incurred. The law protects every individual who has for a specified period participated in covered employment or self-employment, and who is under age 65 when he becomes "disabled." The law defines "disability" as "inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment." The impairment must be one which "can be expected to result in death or be of long-continued and indefinite duration." This may be referred to briefly, if perhaps with not perfect accuracy, as permanent and total disability. The claimant must have been so disabled for at least six calendar months and the first payment to which he may be entitled is for the seventh full month of disability. The amount of payment is computed in the same way as if he had retired at age 65 and is payable until he reaches age 65, at which time payment is continued from the old-age fund. The general policy behind the program encourages private and public supplementation where circumstances call for and permit it.

The law also requires that each applicant be referred for consideration to a state vocational rehabilitation agency. Acceptance for vocational rehabilitation is not a ground for denial or reduction of benefits; instead, a substantial "trial work" period is provided to encourage disabled beneficiaries to try out their ability to return to useful activity without reduction or loss of benefits. Benefits are terminated after the trial work period if an individual demonstrates ability to engage in substantial gainful activity or when his impairment is reduced so that he can return to work. Benefits are not paid while the individual refuses without good cause to accept vocational rehabilitation services made available to him.

With some few exceptions, decisions of disability are made by state agencies under contract with the Social Security Administration. In all except five states these are the vocational rehabilitation agencies; in four states they are the state welfare agencies. In Arkansas it is an independent state department. Every disability decision by a state agency must have the

concurrence of a physician on the state agency's medical staff. That staff also decides whether additional medical evidence is needed, and what data should be obtained for a medically sound decision. The state agency medical staff, consisting of full-time and part-time physicians, arranges consultative medical examinations as needed from independent and qualified physicians. It should be said here that the American Medical Association and the medical profession are cooperating with the administrators at state and national levels in advising physicians about the importance of providing sound medical data about impairments.

The Social Security Administration in Baltimore reviews all decisions from all states for consistency with the law and regulations. It notifies the claimant about the decision after appropriate processing of the denial or allowance. It has a Medical Advisory Committee to consult on major policies, which has been meeting about twice a year for the past nine years. It cooperates with the American Medical Association Committee on Federal Medical Services and with a committee of the Council of State Vocational Rehabilitation Directors.

This program also has its critics. The law is considered by some to be too restricted. The administration of the program has been criticized as being too rigorous in its interpretation of "disability" and demanding in its proof requirements. Some consider this law to be an interloper in work-connected injuries.

Contrasts With Workmen's Compensation

It may be appropriate now to outline briefly some highlight contrasts between workmen's compensation and social security provisions: Workmen's compensation deals with work-connected injuries, of long and short duration, partially or totally disabling. Total disability is often equated with inability to do the kind of work the claimant has usually done and also with a few specified permanent injuries. It covers with varying comprehensiveness "occupational diseases" in all except perhaps two states. Compensation, after a short waiting period, is in most laws retroactive to the date of injury. Social security, on the other hand, protects only for long-term impairment which prevents any substantial gainful activity. The disability concept in social security takes the man as a whole, with all his impairments, psychic and somatic, congenital or acquired, and looks at his residual ability to work, not only in his last or usual occupation but at all occupations for which he may qualify. There is a six-month "waiting period" for which payment is not allowable. There are no scheduled ratings like those frequently found in workmen's compensation laws.

In workmen's compensation the employer or insurance carrier is expected to, and generally does, meet its obligation for payment to the employee; the so-called controverted case may be considered as the exception though it seems to reflect a prevasive climate in all cases. In social security the administrative agencies adjudicate every claim. Payments are made from a disability trust fund, to which employers and employees contribute as well as the self-employed. The adjudicative process has been administratively designed to attenuate potential adversary aspects in claims and seeks to strengthen instead medical soundness and the scientific approach to the medical and vocational factors involved in a determination.

While the nature of a system will affect the kinds of participation by physicians, there are some basic considerations that run through each workmen's compensation program, social security, and I suspect, every other type of program where medical testimony or record is the basis for determining a legal right. The basic similarity should be stressed as most important, but first, however, let us clear the decks of some differences which too often obscure the essential medical role.

Medical care is provided in every compensation law. This probably encourages attending physicians to report promptly and as fully as may be required. In social security it is basically the claimant's obligation to see that a report from his own physician is supplied, though he will receive considerable assistance from his local social security district office in transmitting his request and in completing his claim in other respects. The Social Security Administration is, moreover, expressly "not authorized" to interfere in any way with the practice of medicine or with the doctor-patient relationship. Then, too, the focus of medical interest is different in the two programs because the incidence of diagnoses is different. Injuries of comparatively short duration and with comparatively mild or moderate residuals predominate in workmen's compensation, while chronic and degenerative diseases occur most frequently in social security. The latter often present much more complex issues of diagnosis, response to therapy and measurement of lost and residual functions. The Social Security Administration needs a firm medical basis to explain to a worker who has a mild or moderate heart condition why he was not found to be totally disabled.

Information to Be Supplied Varies

In addition to his findings, the workmen's compensation programs generally expect a physician to supply his evaluation of the impairment in terms of percentage loss of function of the injured part or percentage loss of function to the whole man. In social security the emphasis is placed on reporting

comprehensive history, findings and test results for evaluation by the claims staff. This tends, hopefully, to reduce or eliminate some partisan aspects of medical reporting. Medical staffs in the state agencies where social security disability determinations are made, interpret and evaluate such evidence in a team approach with a trained lay disability evaluator, and staff physicians in the central offices review many of the state agency decisions. In every social security disability claim there is at least one medical review of the evidence. In workmen's compensation cases it occurs in controverted cases and where the amount or duration of payment looms large to the insurance carrier. Few carriers have medical staffs; generally in a questioned case they will have the claimant examined by a local physician selected by them and accept his conclusions. Unless basic eligibility is questioned, i.e., whether the impairment is "work-connected," the amount of disability, and consequently of payment, are issues in which there is room for settlement by the parties. In social security the physician's problem is to communicate clearly the nature and extent of impairment so that a decision can be reached as to whether the claimant is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to be of long-continued and indefinite duration. There is no room here to pay for less than total disability or to compromise the case. Every social security case decision is important not only because of its economic significance to the worker but administratively as precedent or policy indication to staff evaluators. Social security, through the state agency, will, therefore, seek consultative examinations and pay for them, whenever the case record is deficient. The physician is chosen for his demonstrated special competence and his willingness to supply promptly a detailed comprehensive report, sufficient in detail and quality of data to enable the reviewing physician to reach his own conclusions as to the nature and extent of the impairments. Incidentally, in selecting physicians and determining fees, state agencies use schedules and panels appropriate to their regular programs developed in cooperation with the medical societies in their jurisdiction.

Except in cases of appeal from decisions when physicians may occasionally be asked to testify before a hearing examiner, the disability evaluators of social security claims must adjudicate entirely from reports and records. In court actions on social security disability claims, only the record is presented, witnesses may not be called, and a major problem is to have a record in which the medical features are clearly understandable to the court, especially where an attending physician has undertaken to designate a claimant

as "totally disabled" on the basis of a series of frightening (to a layman) diagnoses without specific reference to extent of progression or specific residual capacity. Much more reliance is placed on reporting physicians' conclusions in the workmen's compensation programs and the record or documented case may become important only when there has been controversy.

A noteworthy but subtle difference in approach to medical issues is that workmen's compensation decisions appear to be more influenced by the mere possibility of dire medical consequences as a measure of contraindication to work or to a suggested therapeutic course. In a controverted workmen's compensation case, the existence of such a medical possibility will often swing a case in favor of an award. In social security, predominant medical probabilities and prevailing professional acceptability of the soundness of medical interpretations swing great weight in the decision. The medical staffs working on social security claims necessarily have a salient role in evaluating the medical reports they review.

Similarity in Programs

Now for the main point of substantial agreement among all the programs. In a nutshell, it is that sound examination, reliable testing and clear reporting from attending and examining physicians are the foundations for valid reviewable disability evaluations, no matter who makes the disability evaluation. A committee of the American Medical Association recognizes the distinction between the function of measuring and reporting impairment and the function of rating disability, describing the latter as administrative and not medical since ". . . it is affected by nonmedical factors such as age, sex, education, economic and social environment and the medical factor." This is not as well accepted and understood as it might be. There is little question, however, that the biological appraisal of impairment is a medical function basic to any disability program. The medical issues are how to determine the nature and validity of the impairments claimed, test residual capacity or measure functional losses, and how to record or communicate them in a clear and consistent form. The resolutions of these issues concern every program administrator and every physician.

Reporting Ratings

As I indicated before, they take somewhat different forms when different conditions are presented. The administrator who is responsible for making the payment may use different techniques to document the medical basis for his ratings, depending on types of impairment, and program organization. He may accept medical conclusions with a minimum of supportive findings. In social security the supportive find-

ings are essential to permit medical staff review, and the reporting physicians' evaluations of medical severity can be helpful only when so supported. Anatomical loss, easily describable and a frequent basis for compensation, is generally presented in social security claims only when the loss is major or is combined with other significant impairments. Medical reporting becomes more technical when complications, like osteomyelitis, occur or additional surgery has been recommended. The "loss of use" of a member presents more medical problems when it is not a clear-cut total "loss of use." If it is a partial or temporary loss and when there are subjective factors, conflicting medical reports are not unusual, and here supportive data are crucial. Impairments of sense organs present special problems, mostly in workmen's compensation cases, because they are often only partially disabling.

Disability claims in social security generally present assorted combinations of cardiac, pulmonary, arthritic and mental complaints—manifested by shortness of breath, weakness and pain. Here occur diagnoses which to the unversed often spell permanent and total disability, regardless of extent of involvement or stage of progression. Here, also, are some of the real challenges to medical capacity, knowledge and research for reporting and evaluating fairly.

No matter what kind of medical report form is used, claims can be processed with equity and consistency only to the extent that the medical information supplied is reliable. Medicine has a responsibility for a scientific response in this area that should be recognized and dignified. The scientific climate is being encouraged in many places and in different ways. "Independent" or "impartial medical witness" are terms used by some courts and some compensation appeals boards to designate their approach to this goal within the adversary settings over which they preside. More emphasis is just beginning to be placed on expanding appropriate skills and knowledge through continuing medical education and through better utilization of directed research.

Perhaps wider understanding of the economic significance of disability decisions could give added incentive for meeting the scientific challenge. In social security, as of fiscal year 1963, the amounts paid annually to disabled workers are about \$936.7 million; the average disabled worker's benefit is about \$90 a month. Dependents of disabled workers, like dependents of deceased and retired aged workers, may also receive payments; they receive about \$23.4 million a year. Dependent children who receive benefits on the account of aged, deceased or disabled workers until they are 18 may continue to receive, or become entitled to, benefits after age 18 if they met the definition of disability at that age. They number about 157,000 and receive about \$46 per month.

It has been estimated recently that in an average month more than 43 million workers are covered under state and federal workmen's compensation laws. Perhaps as many as one-half million workers are receiving workmen's compensation cash benefits every week, for all degrees of disability. Almost three-fourths of these were for temporary disability or for conditions that had not been rated as permanent. It is estimated that substantially more than one billion dollars a year is paid in compensation and medical bills. Private carriers pay about two-thirds of the total, state and federal funds about one-fourth, and self insurers about one-eighth.

Widespread Protection Against Disability

It probably is correct to say that almost every gainfully occupied individual has some form of disability protection through one program or another, and sometimes through more than one program. It is estimated that four-fifths of civilian employees in commerce and industry and in governmental employment have workmen's compensation coverage for injury or disease related to work—about 90 per cent of these being under state programs. More than 52 million employees and self-employed now have enough work credits under the social security disability insurance program to make them eligible to receive benefits in the event of disability; almost another 50 million have some earnings record and may qualify if they acquire additional quarters of coverage.

The scope of disability protection is not limited to these two programs. The Veterans Administration has a compensation program for service-connected injuries, and a pension program for nonservice-connected total unemployability. It also administers various insurances. The Railroad Retirement Board administers two disability programs for permanent impairment (one for career employees and one for employees with shorter railroad connection). The administration of State Unemployment Compensation laws and special employment services for the handicapped may require sound medical evaluation as to the "ability" of a claimant to accept suitable work. There are many public and private pension plans with disability provisions of various kinds. Scientific evaluation of capacity also has considerable functions in large industrial plants which conduct examinations of applicants for jobs.

I believe one needs no extraordinary perception to foresee continuing development of programs to provide subsistence and economic security in various forms to the productive population. Eligibility for services as well as for income maintenance will have to be more effectively related to the individual's functional capacity to perform. Unfortunately, those aspects of medicine which provide proper bases for

sound adjudications, have some medical disrepute attached to them and are currently treated as nagging requisitions on a physician's time. They should become recognized as respected and challenging aspects of medical education, practice and research.

Summary

The physician has always played an important role in supplying medical evidence for evaluating disabilities. Primitively the concept of disability was a measure of the amount of wrongfulness in an injury which the law would assess against the wrongdoer. Social insurance programs and objectives are directed towards alleviating major economic insecurities associated with disability variously defined in different laws. In this setting the concept of disability is a measuring of individual insecurity for which restorative services should be supplied and income maintenance provided.

Workmen's compensation was the first social insurance program in this country. Each state and the federal government have enacted workmen's compensation laws. These laws were intended to deal only with work-connected injuries and occupational diseases. There is considerable diversity among the enactments and judicial interpretations of specific features of these laws. Their administration depends largely on the alertness of the workers covered, the employers and their insurance carriers who finance the program and bear the liability, and the workmen's compensation administrative agencies in those states which have such agencies. By eliminating fault as an element of liability, these laws are largely but not entirely "self-administered." In a small minority of claims there is an adversary climate. Many physicians are concerned about the impact of compensation claims on their profession.

Almost 50 years after the first workman's compensation law, the Social Security Act was amended to provide disability income maintenance comparable to a retirement annuity. It is national in scope and covers almost all gainfully occupied individuals including the self-employed. Disability determinations are made by administrative bodies in state agencies under contract with the Social Security Administration. The etiology of the disability is immaterial and the national definition is applied throughout the country. The Social Security Administration actively seeks the cooperation and participation of physicians and strives for a scientific and equitable climate for the adjudication of claims. The law also contains provisions to encourage the rehabilitation of beneficiaries and their return to work.

Some significant differences between the workmen's compensation and social security programs are:

Workmen's compensation covers total disabilities whether permanent or temporary and the residual disabilities whether partial or total. Social security covers only disabilities that may be described as total and permanent. In social security an individual must meet the definition of disability for six months to become eligible for payment for the seventh month of disability. In workmen's compensation the waiting periods are in terms of days or weeks and often the payment is fully retroactive to the time of injury. Claims in workmen's compensation can usually be closed by mutual agreement between the worker and the insurance carrier as to liability and amount of payment. In social security the adjudicative staff can only find the individual entitled or not entitled and they may not compromise the amount of payment or eligibility.

Since medical care is provided in workmen's compensation law, the role of the attending physician is different from social security where it is the claimant's obligation to obtain appropriate reports from his physician. While the conclusions of physicians as to the amounts of disability, especially in terms of percentages of the whole man or the function of the in-

jured body part, are generally determinative in workmen's compensation, comprehensive reporting of history, findings, and laboratory tests are sought by social security to enable staff physicians to evaluate whether the individual meets the definition of disability. The types of impairments presented emphasize different medical problems in the two programs. The vast majority of claims in workmen's compensation involve traumatic or chemical injuries of short duration and with comparatively mild or moderate disabling residuals. In social security the great majority of impairments presented are due to chronic and degenerative diseases.

It is suggested that there is an essential common medical ground in the two programs. Professional integrity, equity and medically sound legal determinations can best be supported by objective comprehensive reporting from physicians of history, findings, and laboratory data, together with reliable measurements of lost or residual functional capacities. The administering or adjudicative organization should effectively carry the ball from that point, in terms of whatever provisions its program may supply for the benefit of the disabled.

WYETH FELLOWSHIP PROGRAM

Applications are now being received for Wyeth Pediatric Residency Fellowships that will begin on July 1, 1965. Sponsored by the Wyeth Fund for Postgraduate Medical Education, each of these fellowships provides \$4,800 over two years toward the advanced study required for Board Certification.

Those who receive these fellowships select as their place of residency any institution that is accredited by the AMA's Residency Review Committee of the Council on Medical Education and Hospitals, the American Board of Pediatrics, and the American Academy of Pediatrics.

Eligible to apply are interns, physicians who have recently completed an internship, research Fellows, or physicians leaving the armed services or U. S. Public Health Service.

A voluntary committee of distinguished pediatricians has the entire responsibility for selecting the Wyeth Pediatric Fellows. Requests for application forms and inquiries about the program should be directed to the committee chairman, Dr. Philip S. Barba, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania 19104. All applications must be received by December 1, 1964.

Compensation Hearings

Medical Witnesses, Disability, and Medical Impairment

DON M. JACKSON, *Kansas City, Missouri**

THE FORMAL HEARING of a workmen's compensation case is the trial of the claim on its merits, usually after one or more conferences before a referee or legal adviser and one or more pre-hearing conferences, all in an effort to simplify issues and settle those cases which can be settled.

The result is that when a case reaches the point where a hearing actually is held, there is a very definite factual or legal question involved, which is strenuously contested on both sides. Frequently this question is one of the nature and extent of the disability of the employee, and it is in this field that some of our most complex problems arise.

Medical Witnesses

The first and I think one of the most perplexing problems in this area is the problem of obtaining a qualified medical expert in the field of medicine involved in the case. This is not a problem peculiar to workmen's compensation cases, because it applies to the entire field of personal injury litigation. Part of it stems from the reluctance of doctors to expose themselves to the rigors of testifying in any court and being subjected to cross-examination. This, in turn, has resulted in far too many cases from rather strongly exaggerated stories of embarrassment of doctors while on the stand. In that connection, I can only say, and I'm sure my colleagues here with me will agree, that the times when a doctor usually gets into trouble on the stand are when he takes a dogmatic position in connection with a medical question as to which there is uncertainty or disagreement, or when he attempts to testify without proper preparation and refreshing. Of this, more a bit later.

Another reason for the trouble in getting competent medical testimony is the fact that testifying in court takes a considerable amount of time away from a doctor's office and practice, frequently without corresponding payment. This is a two-headed phase of the problem which is increasing rather than decreasing as our population grows and the number of practicing physicians does not keep pace. With the uncertainties which accompany the settings of cases for

trial, including continuances, a doctor may be called upon to rearrange his schedule of office appointments several times because of one pending court appearance.

However, I'm pleased to report to you that in workmen's compensation hearings, this uncertainty is far less than in the case of jury trials. This is principally because the Division of Workmen's Compensation makes a definite setting of each case for a positive date and time. Generally and with few exceptions, the case is disposed of at that time. Thus,

Physicians are often unwilling witnesses, and are apt to present confusing testimony. Ratings of "disability" and of "medical impairment" should be clarified, and this can be a significant help in hearings.

the doctor can plan his office schedule with reasonable certainty whenever he is to appear as a witness at the hearing.

Differences Between Hearing and Trial

Another factor of rather considerable importance which distinguishes a hearing from a trial is the absence of a jury. In practically all states, and certainly in every state in this area, all hearings are conducted by a single hearing referee or examiner, who serves as both judge and jury in that he must decide both the law and the facts.

From the viewpoint of the doctor as a witness, there are undoubtedly certain desirable advantages in this procedure. First, he will have to present his testimony to, and convince, only one person that his opinion is correct, rather than having to testify to, and convince, twelve jurors. Secondly, the doctor probably will be permitted to testify somewhat more freely before the referee than he would before a jury, because the rules of evidence are less strictly applied in such a hearing. In fact, the entire atmosphere is much more informal and relaxed than is the trial of a jury case.

In this respect, I have concluded from talking with many medical witnesses over the years, that one of

* Presented at the postgraduate course on Medicine and the Law at the University of Kansas Medical Center in January, 1964. Mr. Jackson is an attorney-at-law practicing in Kansas City, Missouri.

the most perplexing and frustrating experiences of the doctor as a witness is to be prevented from relating, explaining, reciting or otherwise testifying concerning his conclusions. They are irritated and somewhat confused by the apparent lack of logic which prohibits them on direct examination from expressing any opinion not in strict response to a given question, yet which, on cross-examination, exposes them to the necessity of admitting the existence of speculative, remote possibilities sometimes to the point of absurdity. How frequently the doctor-witness must resort to the statement "Anything is possible in medicine."

The difference of course lies in the fact that, on his direct examination the medical witness, being called as an expert witness to aid the jury in deciding a fact which they, as laymen, are without adequate knowledge to do, must be confined to some very narrow channels, based strictly upon the other evidence and his own findings. This is why the doctor finds himself confronted with a hypothetical statement usually prefaced with "Doctor, for the purpose of my next question, I want you to assume the following fact," followed by a recitation of the hypothesis.

On cross-examination, however, there are no such restrictions, because one of the purposes of cross-examination is to determine the qualifications and knowledge of the witness. Thus, a doctor may be cross-examined at great length upon his general knowledge in the field of medicine as a whole. He may also be examined at great length regarding his opinion in the particular case.

In a compensation hearing, while the doctor may be subjected to a complete and searching examination, both direct and cross, the atmosphere of informality, the absence of a jury and the usual absence of tension makes the experience much less of an ordeal than a courtroom appearance.

I do not mean by these comments to convey to you the impression that compensation hearings are of no consequence and should be treated lightly—far from it. Rather, compensation proceedings have increasingly become an important part of our economy during the 50 years that the system has operated in this country.

Economic Importance of Hearings

Since this is a most important segment of our economic life, the ultimate cost of which is paid by you and me as the consumer of products, it is important for us to keep in mind at all times the very vital part played by you as doctors in the total impact of these cases upon our economy.

Practically every hearing involves a question of the nature and extent of the injured employee's disability. This, of course, can range all the way from a tem-

porary partial disability to a total permanent disability, with the largest group being those cases involving permanent partial disability.

The absolute importance of the disability ratings in compensation cases becomes evident when we look at the mathematics of the problem. For example, in Missouri, permanent partial disability is based upon a percentage of the body as a whole, except for certain scheduled losses. The body as a whole is given a maximum value of 400 weeks, representing a theoretical 100 per cent permanent partial. I say "theoretical" because I cannot understand how anyone could be 100 per cent permanently and partially disabled and not be a permanent total disability.

In Missouri, at the present time permanent partial disability is compensated at the maximum rate of \$42.50 per week. This is based upon 66⅔ per cent of weekly wages, or about \$65 per week. Anything over approximately \$65 per week is entitled to this maximum rate for permanent partial disability. All of us know that it is the rare exception today when any employee earns less than \$65 a week. Thus, we are looking at almost 100 per cent of the cases as *maximum* rate cases.

On the basis of \$42.50 maximum for 400 weeks, the maximum exposure for permanent partial disability would amount to \$17,000. Each one per cent of disability amounts to four weeks at \$42.50 or \$170. Each five per cent means 20 weeks at that rate or \$850.

I stress this because we find that many doctors, when called upon to make a rating of permanency in a compensation case, even though no objective evidence of injury is found, feel that they should give the man a five per cent rating just as a token rating—a nuisance rating—or whatever it may be called. It takes little or no imagination to realize what this would amount to in dollars when we consider the fact that such a "nuisance" rating occurs in thousands of cases every year.

In fact, one of the most repeated and confusing incidents for any experienced trial lawyer—whether he represents the plaintiff or the defendant—is the complete and unreconcilable differences in ratings of disability made by two doctors in the same specialty, covering the same complaints made to them by the same man, for the same injury.

Confusion From Ratings

Let me give you just one example, a compensation case we have just concluded in my office. The employee had a fall while on the job. He sustained a concussion with a slight period of unconsciousness, several uncomplicated rib fractures and a fracture of the right tibia involving the plateau and the knee joint. The treating doctor, after extended and re-

peated observation and treatment, reported that the employee had recovered from everything but the knee injury, which he rated at 35 per cent permanent partial disability of the leg at the knee. This was 35 per cent of 160 weeks, the schedule for complete loss of the leg at the knee. Another doctor in the same building, who examined the employee only on one occasion at the request of the employee's attorney, gave the man a rating of 50 per cent of the body as a whole, stating that, based upon the history, the man had a brain injury, and had severe disability from the fractured ribs and from the fractured patella. This rating gave the man 200 weeks of compensation at \$42.50 per week or \$8,500, which incidentally was \$1,600 more than if he had had a complete loss of the leg at the knee. The rating based on the knee alone—made by the attending doctor—amounted to 56 weeks or \$2,380. This is a difference of \$6,120.

I submit to you that while this may appear to be a most aggravated example, it is in fact a relatively common occurrence. I also submit to you that there is no logical, justifiable explanation for such differences. In fact, viewed in any reasonable light, it represents an indictment of your medical profession and its members—for one or the other of these doctors just cannot be intellectually honest. Necessarily, he has prostituted his profession for a fee.

And such conduct likewise reflects directly upon the lawyer who has called the doctor as a witness. Both the medical and legal professions suffer accordingly.

This situation over the years has reached the point where referees of the compensation commission absolutely refuse to accept as reliable the testimony or reports of a number of doctors in several specialties. This is because these men are recognized as either unrealistically conservative in rating disabilities or as equally unrealistically liberal in their ratings.

Certainly, it seems completely absurd to me that two competent doctors in a given specialty would rate a given disability with such a wide variance. If the same criteria of rating are used and if the examinations are reasonably compatible, then, allowing for honest differences of opinion, we should not see more than a five to ten per cent difference in ratings.

Rating as "Medical Impairment"

Much of the existing problem in this field would disappear if the medical profession would limit its ratings of disability to a rating of medical impairment. Under this system, the doctors would not be called upon to include in their ratings such non-medical factors of disability as sociological conditions, occupations, skills and financial resources. These factors, all of which have a definite bearing upon the actual disability of the injured person, would be

left completely to the decision of the hearing referee, based upon the evidence in the case.

The American Medical Association, recognizing this problem, has formed a committee known as the "Committee on Medical Rating of Physical Impairment," whose purpose is to produce and disseminate guides for the ratings of medical impairment as opposed to ratings of disability. The Committee has gone on record that it is its opinion that a doctor contributes most effectively when he confines his findings and conclusions to medical questions; that while a doctor may be better qualified to rate disability than is the average layman, this requires him to get into a non-medical area where he must consider all the other aspects, sociological and economic, and thus takes him into areas of relative speculation.

Let me use some specific examples which I heard Dr. Dwight M. Palmer of Columbus, Ohio, use while on a panel with me at Vanderbilt University Law School about a year ago. He is a member of this A.M.A. committee. First, we have the case of the man who has made his entire living all his adult life with a given part of his body, say his right hand. If that right hand is amputated, the man is very obviously not 100 per cent impaired from the standpoint of medical impairment. He still has the rest of his body and extremities intact, and he can make a living in many ways. Yet, from the standpoint of the only occupational training, ability and experience he has ever had, he may in fact be totally disabled. Thus, while his medical impairment might be said to be about 50 per cent of the whole man, his actual disability could be close to 100 per cent.

I should stress at this point that the A.M.A. committee has approached the evaluation of medical impairment on the basis of interference with the patient's daily living. This includes his ability to take care of himself, to communicate with others, to stand and walk around and to use all his members, with particular reference to his ability to use his hands. It should be stressed, however, that this does not—and must not—include any consideration of acquired skills which has developed in his trade or vocation.

The impairment ratings must result in a reasonably uniform and consistent value for a given condition. Thus, if a person is blind because of eye disease, his rating of medical impairment is the same as the person who is blind because of a complete lesion of the optic nerve.

This process, of course, will require a re-education of the medical profession, the legal profession, insurance companies, compensation boards and courts. All of us have asked for a rating of percentage of "disability," and this is the system uniformly followed. I believe that this is one of the most important factors in the widely divergent ratings we have been

encountering before commissions. I think another example used by the A.M.A. committee itself in its educational program with doctors illustrates very dramatically what I mean. This is the case of the hypothetical concert violinist, who has a very large income because of his great skill. While walking down the street, a brick falls from a building, striking him on the head and causing a blood clot over his non-dominant cerebral hemisphere. This causes a complete and permanent loss of the fine movements of his left hand, so that he can never again play the violin with any skill. What is his disability? As a concert violinist, it is obviously 100 per cent. But, from the standpoint of medical impairment, it is far less, since, except for these fine movements, he is able to carry on the ordinary activities of daily living. While he no longer can be a successful violinist, there are countless other things he can do for a living.

A Means of Improving Ratings

I, personally, believe that we would take a giant step forward in the medical aspects of a compensation hearing if we could reach the point where doctors would rate medical impairment, leaving the question of disability to the referee or the Commission. I'm satisfied that we would substantially reduce these irreconcilable conflicts in ratings.

This would substantially reduce the burdens of the referee, the Commission, the insurance company and the attorneys on both sides of a compensation case.

When there are grossly conflicting ratings in any case multiple problems immediately result. First, the employer and insurer will not consider paying the high rating made by the employee's doctor, nor will the employee consider accepting the low rating made by the employer's doctor. Unless a settlement can be made by compromising the ratings, which means taking an average of the two, the case is set down for hearing, which is itself a clerical process of some expense to the taxpayers.

At the hearing, which is held before a referee, the law casts the burden upon the employee of proving the nature and extent of his injury and resulting disability, and there is no corresponding burden upon the employer to disprove his injury or disability. However, with liberal provisions for presumptions to be indulged in favor of the employee, one frequently gets the distinct impression that the actual burden falls on the employer. Thus, the law says that all its provisions shall be "liberally construed with a view to the public welfare." In actual practice this means that all doubts which may arise from the evidence are to be resolved favorably to the employee and against the employer. As a practical matter, where both the employee and the employer produce well qualified medical witnesses, and where the ratings of these witnesses are substantially different, it also frequently means that the rating of the employee's doctor is accepted and the rating of the employer's doctor either disregarded or given little weight.

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Postgraduate Education

Approaches to the Evaluation of the Effectiveness of Continuation Medical Education

WALTER E. BOEK, Ph.D., *Cherry Chase, Maryland**

IN THIS PAPER some observations about evaluation and how it might mesh with continuing as well as developing programs will be advanced. Then the methods followed currently and in the past by researchers concerned with processes by which information flows from its sources to practitioners will be reviewed briefly, with most of the studies referred to being listed in the review of the literature published by the Institute for the Advancement of Medical Communication.¹ From these studies, as well as from associations with many directors of postgraduate medical education programs and with other medical educators and behavioral scientists, some ways of analyzing programs to measure possible changes have come up and these will also be considered.

The motivation for evaluation is something about which medical educators are not naive. Resources are nearly always scarce in relation to needs. It is necessary to sell our program, or an even bigger one, to the administration. We want to cut costs so that we can do more. We want to attract more participants and to send them home happy with what we put them through. We may be interested in evaluating because we have a sense of pride and want to do a better job. Most medical educators also want to make a more substantial contribution to human betterment.

Undoubtedly these goals are all important, but there is one additional, very significant development in the etiology of this present fuss about evaluation. This development is the evolution of postgraduate or continuation of medical education as a profession. Already the behavior and values of this educational field, as a high level profession, are quite evident to me since I have become acquainted with people in the field, learned what they are doing, and what they hope for in the near future.

But, how is the professionalization process related to an increased interest in evaluation? Well, a very

significant proportion of the rewards a professional needs to receive in order to be confident that he is an effective human being is made up of the accolades given to him by his colleagues. This recognition is usually accorded on the basis of the quality of his work, including what he has added to the store of knowledge in the field. Thus it becomes necessary to

The educational techniques—lectures, seminars, movies, television, radio, teaching machines, and all the rest—and the serious need to test their individual and combined contributions should make being a professional in this field most interesting and challenging. Continuation medical educators are already doing some careful evaluation and they can continue to move forward speedily with the kind of built-in objective appraisal of their efforts that will give them personal satisfaction and keep their programs in the high enthusiasm, high integration phase of the life cycle.

measure what is achieved with reliable evaluative techniques and to report methods, as well as findings, at meetings such as the annual National Conference on Continuation Medical Education.

Life Cycle of a Program

The history of programs as they evolve from ideas to fullblown activity and then go through cycles of lesser and greater activity may also teach something about the function of evaluation as a preservative of what program directors wish to do over a long period.

As a way of demonstrating the combined theoretical and practical implications of evaluation, the life cycle of a program will be diagrammed.

During the time a program, such as a new postgraduate center, is germinating a lot of enthusiasm usually surrounds the idea, particularly on the part of the program people who hope to get it underway. High hopes are voiced and splendid achievements are

* Revised from a paper given at the Second Annual Conference on Continuation Medical Education by Walter E. Boek, Ph.D., Visiting Professor and Research Coordinator, Interprofessional Research Commission on Pupil Personnel Services, University of Maryland, and Director of Research, Montgomery County Health Department, Mental Health Center. This paper stems from work done at the Institute for Advancement of Medical Communication where, until recently, the author was Assistant Director.

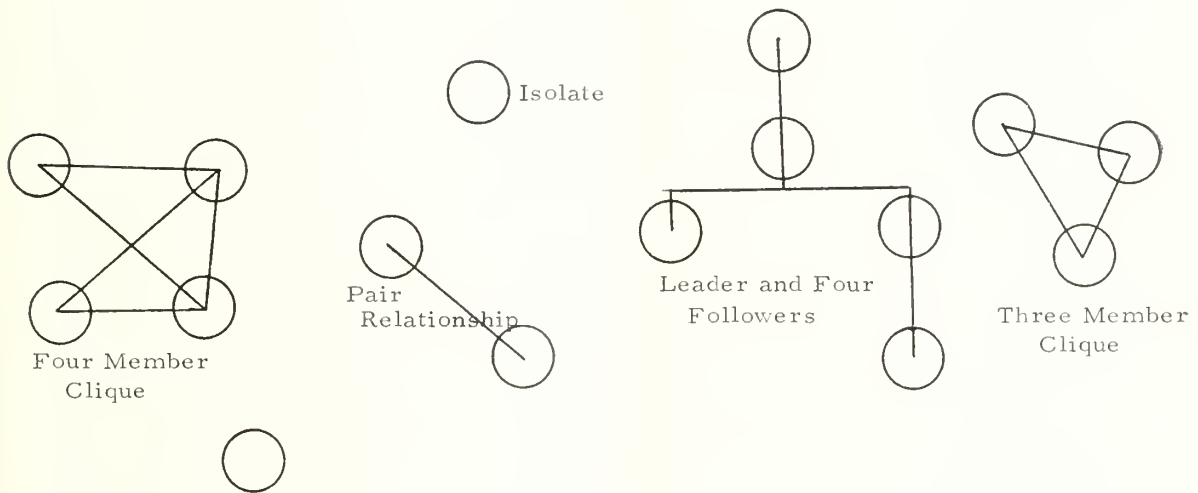
contemplated. This enthusiasm and promise of accomplishment may even penetrate through to the administration and the fiscal staff so that they come forth quite willingly with support.

But there may also be confusion among the proponents as each tries to find his "place in the sun" in the developing organization and to get his concept of its function into a charter. Pictured in a diagram, this first stage in the life cycle of a program might look like *Figure 1*.

The circles represent people, with the lines being the bonds of mutual interest that hold them together. Here there are many cliques and even some isolates. Unless all these enthusiastic individuals and small groups are able to combine their efforts into a relatively effective organization, the program will be aborted. The agreement on goals, along with achievement of an integrated system for reaching them, may

superordination of individuals in the system. However, this enthusiasm may soon start to diminish because some hard facts are beginning to be faced. If this program development is taking place in an organization like most medical schools, the dean and other administrators probably have projects, proposed by other parts of the college, catching their attention with all the enthusiasm that this one had in its foetal stage.

When the director and his staff begin to lose ground, the program goes into the third stage, which may be its last. Here, enthusiasm is missing and integration has disintegrated, producing a general dissipation of energies, with intra-staff conflict prevalent. Again, individuals are split into small coteries (*Figure 3*). It is at the beginning of this stage that some serious questions are raised by those who control the funds and the facilities necessary for suc-



Stage 1. High Enthusiasm, Low Integration

Figure 1

mean the dropping out of individuals or cliques whose members feel they cannot accept the ideas or the leadership that evolved out of the somewhat nebulous, highly enthusiastic first stage.

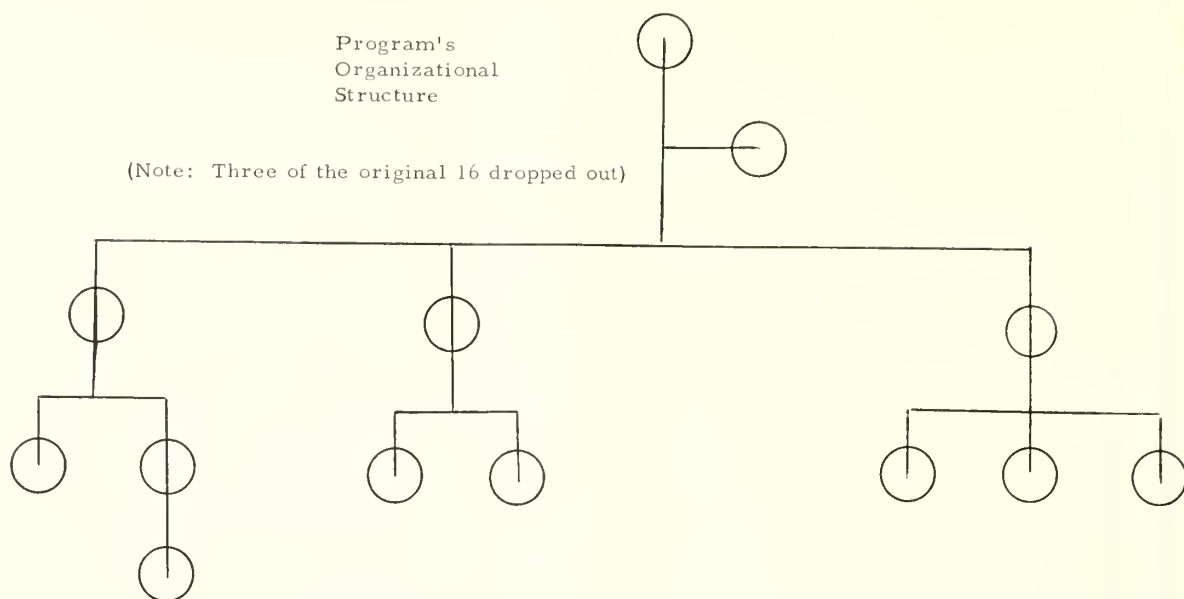
In the second stage of a successful project or program, there is a structure formed with the individuals agreeing fairly well on the objectives as well as the roles they have in it (*Figure 2*).

This is a picture of the usual bureaucratic type of organization with a director and a subordinate hierarchy.

During this stage, the staff is usually interested in maintaining its program in a status quo, rational sort of stage, adding just enough new ideas to keep enthusiasm up, but yet not damage the subordination-

cessful execution of the program. Such questions as what are we trying to do, what results are we getting, is this really important, and should we really be spending all this money and time on it, may be asked.

Panic hits the program director who does not want all of his efforts to disintegrate. Frequently, on the other end of his panic button, is a social scientist who is asked to rescue him with a survey or an analysis. Working under an extreme handicap, this scientist tries to achieve some degree of scientific validity in measuring the changes that have already occurred. Even if he succeeds, the answers might not save the program either because the people making the decisions really do not care anymore or because the



Stage 2: High to Medium Enthusiasm, High Integration

Figure 2

program did not achieve anything that could be measured *ex post facto*.

Evaluation and a Program's Life Cycle

The function of evaluation needs now to be related to this life cycle theory. It is easy to conclude that, if objective appraisals had begun with the initiation of the program and continued during the program's development, the results of these appraisals would have answered the questions and steered the program in a direction that would have maintained it. However, the contrary may be true because an objectively inclined activity does not fit into an ongoing program so easily.

What may happen, for example, if an evaluation or an evaluator is introduced in Stage 1? If he is objective, he will see through the screen of glamour thrown up by the enthusiastic initiators. His doubting attitude could kill the momentum needed to get everything started.

To overcome this, the idea of evaluation has to be an integral part of the thinking of program planners; evaluative methods must be developed along with the programs. This has to be done in such a way that, while it remains objective, its process and results support and help build the program being planned rather than endangering it.

An evaluative attitude, combined with the action qualities of the administrator, is the necessary outlook. At the moment when they are excited about

starting something new, it is essential they also become eager to develop ways of knowing how they are meeting their goals. This may be difficult for some, but for the competent, professional postgraduate educator, it should present the stimulation of becoming familiar with some of the skills of behavioral scientists and of constructing a methodology of program development that can be utilized around the world by his fellow professionals.

Past Research on Flow of Information to Practitioners

Turning now to what has already been done, to study how successfully medical practitioners have been reached with information, our review showed that most investigations have been sponsored by pharmaceutical firms or medical journals and other publications, primarily to show how it might be best to advertise. Not only were the research methods generally weak, but the findings many times seemed to be related to what sponsors may have wanted to hear.²

Amount and type of reading, number of postgraduate courses, attention given to detail men and to mail promotion were among the factors covered by these surveys. Findings indicated that many doctors do not get formal training beyond their internships or residencies. It seems that, for some doctors, information obtained in reading or through the mail is used either after a detail man visits them or after they hear what their friends are doing.

Among persons putting on courses for physicians after they have left formal training, there have been many attempts to assess the value of such training. Most commonly, a questionnaire is filled out by participants after the training is over. When all in attendance are induced to fill out a carefully worded form, this is a fruitful method for learning how to improve the training for physicians with similar characteristics.

A major improvement on this single questionnaire is the use of a questionnaire both before and after a postgraduate activity. When excellent instruments have been used in this way, they have furnished considerable insight about changes in knowledge and attitudes of participants occurring during the training.

Even better than questionnaires filled out by participants, are efforts to obtain the before and after information in interviews. In 1935, Dr. John B. Youmans used a combination questionnaire and interview to measure results of his postgraduate course at Vanderbilt. When they applied for his course, physicians completed forms about their practices, including such items as the equipment they used. After the training Dr. Youmans paid an unannounced visit to the doctors in their offices. He stayed there long enough to talk with them, to observe their practices, and to make a record of their laboratory equipment and their libraries.

Another technique is a before and after test or examination. This was utilized by Dr. Fred MacRichardson in relation to his radio program. Dr. Hillman Castle also used a series of test-type questions before and after his television programs in a pilot study aimed at recording its effects.

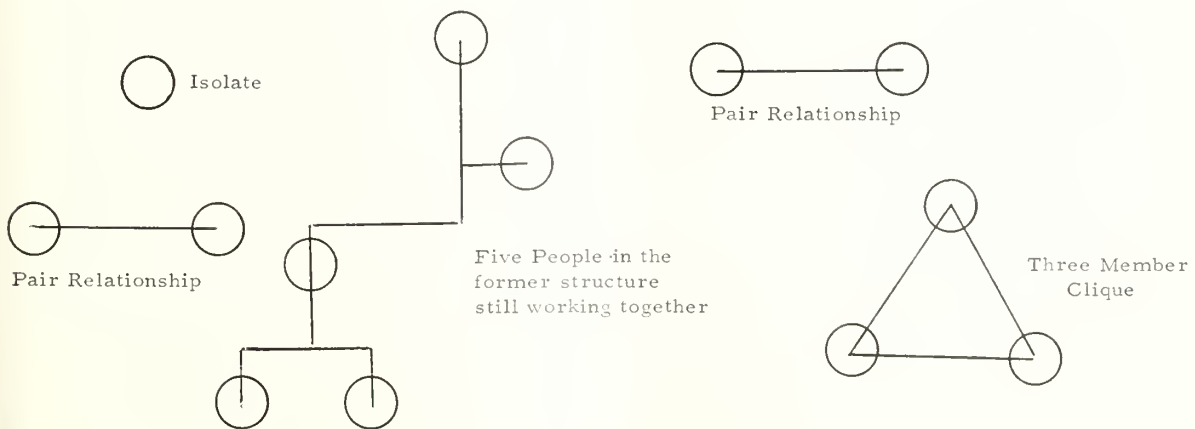
A more intensive before and after research design

that might be relevant to problems in postgraduate medical education was carried out in the New York State Department of Health where the staff of the Bureau of Maternal and Child Health decided that they wanted to determine whether or not a course they were giving for nurses was worthwhile.

The plan they used in trying to answer their questions began with preparation of a schedule of questions. The 16 nurses who were to take one all day session each week for ten weeks were then visited in their offices and an interview was recorded with them, using the schedule. On the first morning of the course, they completed three forms. One contained 100 true and false questions, the two others a series of situations about which they were to record their reactions. On the last day of the course they again filled out those three forms. Within two months all were reinterviewed in their own offices with a schedule of questions similar to the pretraining ones. These final questions were also taped.

In looking at those findings, it was discovered that changes had indeed occurred. In fact, it appeared a type of brain washing had been involved to the extent that some nurses were quite emotionally upset about new procedures the instructors were getting them to use. Because of this somewhat startling discovery, it was decided that the nurses should again be interviewed two years after the course was over to see if their thinking and knowledge had stabilized. Following this third recorded interview, nurses again completed the true and false and situation forms.

This turned out to be a most essential evaluation. No one had suspected that the teaching methods would create so much stress that a number of these mature nurses would reach the point where they actually wept because they had been told repeatedly



Stage 3: Low Enthusiasm, Low Integration

Figure 3

that their old ways were wrong, then put under pressure to use the new methods by instructors who went to their offices and watched them carry out part of their tasks. This effect on the nurses would have never been documented if it had not been for the evaluation.

The ultimate goal of all our training is the improvement of medical care. It is particularly difficult, however, to control all variables necessary to know whether one program's or one organization's efforts are helping doctors to do better work. It is also a hard task, as we all know, to measure the quality of medical care. To add the responsibility of recording changes as a result of some course or other activity is an additional difficulty.

However, even in the face of these obstacles, there are some fine studies that have been designed to measure quality of medical care. Among these has been the very intensive one by Dr. Osler Peterson and his colleagues in North Carolina. A sample of doctors were visited in their offices where their handling of patients was observed. Then the quality of medicine practiced was related to the amount of postgraduate activities they had previously participated in. This research team concluded, by the way, that doctors having had what the research team considered to be postgraduate training did not seem to be correlated with the quality of medical practice.

At Columbia University in the Bureau of Applied Social Research, Dr. Herbert Morsell and Mrs. Jean Cornish have been working on the problem of measuring the level of medical practice of pediatricians for the Physicians' Council. In doing this, they have been attempting to develop a schedule of questions which measure knowledge and practice. Such a technique could then be used to establish a baseline against which the possible effects of training can be compared.

Varying from these methods was the approach of Drs. Jesse Rising, Mahlon Delp and Edith P. Weinback at Kansas. They had 60 medical students keep records on 100 consecutive patients seen by their preceptors. The history taken, the laboratory work, the diagnosis, and the type of treatment told the Kansas medical educators something about quality of medical care and what they needed to do in their courses.

Evaluative research also has helped overcome the biases or concerns that have existed about a particular communication method. It has been interesting to see changes in attitudes, for example, toward the use of television in postgraduate medical education. For some people who initially seemed to be opposed to this instrument, experience has convinced them that it has a place in their programs. Others who thought it was about the only efficient channel of communica-

tion, have backed up and now are not quite sure. Studies also have produced evidence on the closed versus open circuit debate so that most proponents of one or the other way have softened in their opinion.

The Need for Special Attention to Evaluation

Both in evaluation and in teaching, professionals in the continuation medical education field have a more difficult task than other medical educators, for, as Dr. Richard Orr has said, "Postgraduate medical education is the only medical education without built-in evaluation." For instance, some practitioners feel that they are already familiar with all they need to know, thus requiring the changing of deeply ingrained attitudes, either before, or along with, the knowledge provided by postgraduate teachers. This changing has to be done, moreover, without the controls that exist in undergraduate and graduate medical education. Medical schools can hold the bodies of students while educating their minds. Postgraduate medical educators cannot do that very well. Practitioners do not have to attend, and even if they do, there are no examinations which they must pass in order to go on. Some of them are of the opinion that, since they are licensed doctors already, they should not have to return to school and certainly not have to be examined if they do take a course. Even if this attitude prevails in an area, there are still some techniques that might be followed in a postgraduate program. For example, it may be possible to utilize and even foster social pressures in the community of doctors so that continuing one's education becomes the acceptable way for a physician to behave. This social approval or rejection can stimulate participation and set standards against which to measure accomplishments.

Because determination of attainments in training activities can range from before and after questionnaires to highly complex experiments, perhaps what we need to do is to consider evaluation in terms of (a) *general operations research*, which can be carried out along with programs, and (b) *special projects*, which are those needing more time and money than usually is available.

What one should do routinely should be decided in relation to how directors want the life cycle diagram of their programs to look during the coming years. The least that could be done, it seems to me, would be carefully designed before and after questionnaires or interviews.

To help obtain the most difficult data, which would be necessary in developing and testing some new procedure for measuring changes in knowledge and practice, behavioral scientists specializing in communications might be needed. They might either be

on postgraduate department staffs or used as consultants.

It should be recognized that use of a research design that involves experiment and control groups is a practical procedure which can be followed without causing very much trouble for program staffs. For example, to learn how teaching machines may fit into a total effort, practitioners in the geographic area covered by the postgraduate teaching could be interviewed to determine their state of knowledge and practice. Then, while teaching machines are being used in one part of the area, other means of training or nothing could be used in the rest. A postprogram assessment of knowledge and practice could tell, when compared to the preprogram measurement, what the machine-programmed learning accomplished and how it compared with other methods. The added value of this experimental control type of evaluation justifies the extra effort required to execute it.

If educators stick just to the responses on questionnaires to determine further content of courses, type of instruction, and method of teaching, serious errors might result. Most postgraduate teachers would probably agree that it is not enough to consider a program in postgraduate medical education successful because attendance is high and complaints are low. (Changes made to satisfy participants' complaints might make the group happy, but it does not mean that those doctors not coming would like the changes if they did come.)

It also should be recognized that physicians who liked the teaching may have learned much less than the ones who were disturbed by what they heard and saw. If postgraduate training is to make a really significant contribution to improving the quality of medical care given by physicians, it cannot just provide information but must also change attitudes. To do this, the teaching program must create some stress or utilize already existing stress in the minds of the practitioners. The secret is to create stimulation in such a manner that the participants will still like and respect the instructors and the program director when the course is over.

Since the most important purpose of medical education is to improve medical practice, the ideal achievement would be positive changes in morbidity and mortality of the general population. For example, there are some diseases whose outcome can be changed under influence of improved medical practice which could result from postgraduate medical education. Cancer of the cervix may be one of these. If enough practitioners are stimulated to do smear tests routinely, the death rate would change. As a measure of success, mortality data from before and after a training program can be utilized or the educational program can be given to doctors in one large city or section

of a state and what happens there can be compared with other cities or sections. Consideration must be given, however, to the possibility that morbidity or mortality from a particular disease would rise as a result of a training program that sharpened physicians' awareness of the symptoms connected with it.

Other ways to study what effect programs are having can be worked out. In my experience with representatives of various disciplines who run educational programs, I have found that the main obstacle to evaluation is the fear, on the part of the program director and staff members, of having their competence put under surveillance, rather than the lack of methods for doing the job. This fear exists even when the program directors are the ones carrying out the study and making the judgment about its success. Since evaluation is a process of judging how well one educational technique or approach compares with another, it cannot be done well if those putting on the program lack confidence in their own abilities.

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Men are what they were.—George Bernard Shaw



Tumor CONFERENCE

Neoplastic Disease of Trophoblast— Chorioadenoma Destruens

Edited by JAMES M. FLYNN, M.D., *Kansas City, Kansas**

Dr. M. Havenhill (Resident, Obstetrics and Gynecology): The patient is a 24-year-old white woman who was seen in our department for the first time on February 3, 1964. Her chief complaint was vaginal bleeding of several months' duration. Her last menstrual period was August 23, 1963. The history of the present illness begins in mid-August when she noted the onset of slight abdominal swelling. On October 10 she had the onset of vaginal bleeding which persisted for approximately two weeks. She first consulted a physician at this time with complaints of vaginal bleeding, lower abdominal pain and nausea. She was hospitalized and a frog test was done. The test was positive and she was told that her uterus was larger than it should be for a normal pregnancy of approximately 2 months' duration. An additional finding was a mild anemia. She was kept in the hospital four days and discharged.

Dr. Stanley Friesen (Surgeon, Moderator): During the period of August to October did the patient feel she was pregnant?

Dr. Havenhill: Yes, she did.

Dr. Friesen: The amenorrhea, abdominal swelling and nausea would naturally lead her to that conclusion. Then the first abnormality as far as the patient was concerned was the vaginal bleeding in early October.

Dr. Havenhill: She was again seen by her physician in November, 1963, with the complaint of continued spotting and some edema of the lower extremities. The edema was treated with some unknown diuretic and she was not seen again until December. At this time there was heavy vaginal bleeding and

she was hospitalized and a dilatation and curettage of the uterus was done. The material removed from the uterus was characteristic of a hydatidiform mole.

Dr. Friesen: Should this diagnosis have been made on the first visit to the physician in October?

Dr. Havenhill: With the findings of a positive frog test and the history of vaginal bleeding one would probably consider threatened abortion to be the most likely diagnosis.

Dr. Friesen: Dr. Mantz, would you tell us about the pathologic examination of this material.

Dr. Mantz (Pathologist): The slides from the hospital to which she was first admitted were borrowed and reviewed in connection with the material obtained in this hospital. These photomicrographs are from the products of this original dilatation and curettage. Just as would be suspected from the history, the material is consistent with a disorder of trophoblastic proliferation. This disorder is manifest here most overtly but not necessarily most importantly by the fact that all the chorionic villi are swollen as a result of hydropic degeneration (*Figure 1*). In addition, one can search diligently throughout all the villi and fail to find blood vessels. You will recall that the deprivation of the fetal circulation to the placenta creates a situation highly comparable to that which exists when the fertilized and dividing ovum begins to implant. Its attempt to achieve adequate nutrition for itself is marked by the proliferation of the trophoblast. The appearance of the trophoblast here is of considerable interest. One observes great masses of this tissue just as one would anticipate finding about the 10th to 15th day of pregnancy. We know that the pregnancy is approximately five months in duration and therefore this in itself is evidence of anaplasia.

* Senior Resident, Department of Pathology, University of Kansas Medical Center.

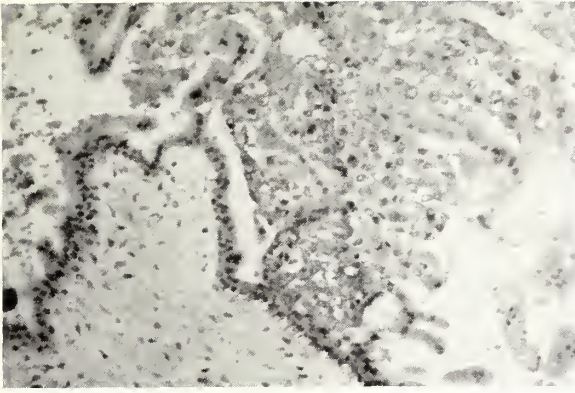


Figure 1. Original curettings showing hydropic avascular villus and trophoblastic proliferation with vacuolated syncytial cells.

The cells of which the trophoblast are formed consist of two types, those which are well defined, the cytotrophoblasts and those which are multinucleated and exhibit large masses of cytoplasm, the syncytial-trophoblast. Another feature worth noting is the fact that the syncytial cells have undergone cytoplasmic vacuolation. This change is common to the time of implantation when protoplasmic fingers are sent out to increase their surface area to better assimilate the maternal nutrition. This likewise is evidence of anaplasia.

We therefore have a hydatidiform mole in which there is exuberant trophoblastic proliferation and a high degree of anaplasia. I would refer to this mole in the classification commonly utilized as a grade II hydatidiform mole or one which is potentially malignant.

Dr. Friesen: Dr. Rockwell, I am a little bit concerned about the use of curettage here. Here is a young woman who appears to be bleeding throughout the late first trimester and the second trimester of a normal pregnancy. Isn't it true that many women bleed intermittently through pregnancy and then bear normal infants?

Dr. Rockwell (Obstetrician and Gynecologist): You have brought up one of the most difficult aspects of the clinical problem in these cases. The problem is to determine whether or not you are dealing with normal pregnancy or a hydatidiform mole or an even more serious neoplasm of trophoblastic origin. Fortunately these tumors give other evidence of their presence and in this case the significance of early hypertension, albuminuria and edema was not appreciated. I don't believe it was brought out in the history that she spontaneously went into labor in December and expelled molar tissue. The diagnosis was obvious then. It is not always that easy, however. For example, let us take a woman in the second trimester without previous history of hypertension who

now presents with hypertension, albuminuria and edema. How does one make the diagnosis of hydatidiform mole? Some obstetricians feel that the chorionic gonadotrophin test done on spinal fluid is helpful and that a positive test indicates the presence of a mole and a negative strongly indicating the absence of a mole. Actually the tests only measure unusually high titers of chorionic gonadotrophin from any cause rather than being specific for hydatidiform mole, and such titers are occasionally seen in normal pregnancies. A Philippine physician, Acosta-Sison, has devised a test wherein she inserts a uterine sound into the cervical os. If she meets resistance at the level of the internal os she assumes that she is pushing against the intact fetal membranes. If the sound can be passed without resistance then it is assumed that the sound is simply pushing through the mole as it enters the uterus. This test is attended by the risk of inadvertent rupture of the membranes or contamination with pathogenic organisms, to mention only two. For these reasons and others this test is not done here. Another test is amniocentesis where the uterus is tapped by inserting a needle into it through the anterior abdominal wall and an attempt to aspirate amniotic fluid is made. One would assume that one was dealing with a mole if no fluid was obtained. Injecting a radio-contrast material could outline the contents of the uterus. If on the other hand, amniotic fluid is obtained one would assume that he was dealing with a normal pregnancy and would manage the case accordingly. In this case the diagnosis was made after the patient had labored and delivered part of the conceptus which was obviously a hydatidiform mole.

Dr. Friesen: These tests that you have mentioned seem rather daring to me. Why couldn't one simply wait for the duration of a normal pregnancy and see whether the patient delivered a mole or not?

Dr. Rockwell: We are concerned mainly because one may be dealing with one of the more aggressive neoplasms of trophoblastic origin and in this case one would lose valuable time and an opportunity to cure a patient of a malignant disease. One theory of origin of these tumors relates the failure of the blood vessels of the placenta to join those of the fetus to the abnormal trophoblastic proliferation. In addition, there appears to be a greater chance of malignant differentiation the longer the abnormal conceptus is allowed to remain in the uterus. Therefore, we like to make a diagnosis of a mole as early as possible. In addition, these patients frequently have severe hypertension or albuminuria and are seriously ill from their toxemia. In these cases, we are occasionally forced to terminate the pregnancy.

Dr. Friesen: What happens to the toxemia following delivery?

Dr. Rockwell: There is a miraculous improvement in all the signs and symptoms and they are essentially well in a few days.

Question: At what gestational age does the skeleton of the fetus become visible on an x-ray?

Dr. Rockwell: At about four to four and one-half months.

Question: Does this help in making the diagnosis of pregnancy versus hydatidiform mole?

Dr. Rockwell: Generally speaking, yes. Certainly, if the problem arises when the pregnancy is that many months in duration. However, many of these women present with vaginal bleeding before that time. Rarely, a fetus accompanies a mole. The size of the uterus varies relative to a normal pregnancy. Early in gestation, the uterus will be larger in a mole pregnancy than it would have been with a normal pregnancy. In the mole pregnancy the uterus will continue to be larger than a normal pregnancy up to about 22 weeks when they are approximately the same size. At that time, the mole tends to stay about the same size whereas the normal pregnancy would continue to grow and produce gradual uterine enlargement.

Dr. Friesen: At this point in the history we have a diagnosis of hydatidiform mole which is potentially malignant in December, 1963. Dr. Havenhill, would you continue with the history, please?

Dr. Havenhill: The patient was discharged from the hospital and followed until mid-January when it was noted that she again exhibited edema of the face and lower extremities and again had heavy vaginal bleeding. The frog test for pregnancy was again positive, and a second dilatation and curettage was carried out. There was abundant hydatidiform mole curetted from the uterus at this time, and it was reported to be grossly similar to that noted on the first dilatation and curettage. There was no vaginal bleeding following this D & C until the first week in February, when there was a recurrence of the vaginal bleeding and she was referred to KUMC for further diagnosis and treatment. On admission here, her blood pressure was 112/74. The physical examination was within normal limits except for the findings on pelvic examination. The uterus was approximately one and one-half times normal size and there was a bloody discharge from the cervical os. The hemoglobin was 6.7 grams per 100 cc. and the frog test was again positive.

Dr. Friesen: What was done at this time?

Dr. Havenhill: Another dilatation and curettage was done.

Dr. Friesen: This is the third dilatation and curettage and the frog test is still positive? It is approximately two months after the original diagnosis of

hydatidiform mole. Dr. Mantz, would you tell us about this specimen, please?

Dr. Mantz: The tissue received in the laboratory on this occasion was rather nondescript. When examined microscopically it was composed for the most part of rather well-developed decidual tissue which in itself signified a high degree of progesterone stimulation and suggests that luteinization has occurred within the ovary. There is an element of inflammatory infiltrate within it that suggests this tissue is not able to maintain itself and is, therefore, undergoing early necrosis although the presence of a mild bacterial infection cannot be excluded. In some areas of this tissue, we are able to detect some rather large syncytial-appearing cells. This is the picture of the disorder of trophoblast referred to as "syncytial endometritis." This is in itself not a neoplasm, although it may be associated with elevated chorionic gonadotrophin levels. What it represents is a proliferation of those segregated trophoblastic cells which are just in front of the main placental mass, the so-called "placental site cells." In themselves, these cells are not startling and a very low rate of malignant alteration occurs in this state, indeed, if it occurs at all. Its only significance is that it may contribute to subinvolution of the uterus.

There were, however, other cells within this material which were undoubtedly trophoblastic in origin (*Figure 2*) and which exhibited atypical features. Some appeared to be syntrophoblastic cells whereas others appeared to be from the Langhans layer and still others were not identifiable. There were very few of these cells within the specimen, however, and they were not present in sufficient number to make a definite diagnosis. They deserved to be viewed with alarm and should suggest the possibility of a choriocarcinoma or a chorioadenoma destruens.

Dr. Friesen: Was the chest x-ray negative?

Dr. Havenhill: Yes.

Dr. Friesen: Would you continue with the history please?

Dr. Havenhill: After receiving the pathologist's report, this woman was taken to the operating room where a total abdominal hysterectomy was done. The ovaries were somewhat enlarged, contained multiple small lutein cysts, but were otherwise not remarkable. The uterus was soft and appeared to be approximately the size of a two-month pregnancy. On the right there was a rope-like uterine vein which we felt could have been a vessel filled with tumor. Post-operatively, she did well and on the fourth day, the chorionic gonadotrophin test was negative.

Dr. Friesen: Would it be possible to have a positive pregnancy test at this point?

Dr. Havenhill: Yes, if this were a malignant

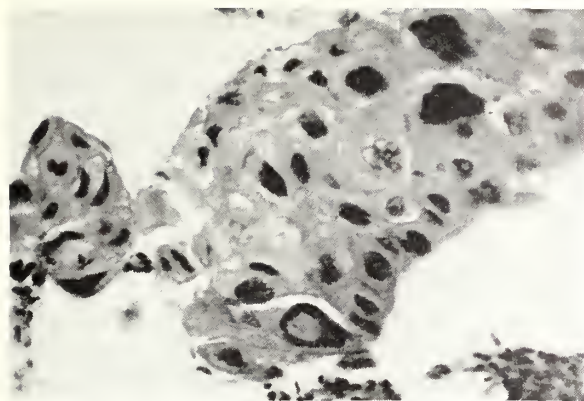


Figure 2. Abnormal trophoblastic cells in uterine curettings obtained following admission to KUMC.

lesion and had metastasized outside the uterus, we might still get a positive pregnancy test.

Dr. Friesen: Then this test could be used to follow the patient and determine whether metastases were present.

Dr. Havenhill: That is true.

Dr. Friesen: Dr. Mantz, would you tell us about this specimen, please?

Dr. Mantz: The fundus of the uterus was filled by a large, slightly hemorrhagic tissue mass which extended toward the right cornu (Figure 3). Though this tissue bulges into and fills the endometrial cavity, it is not ulcerated and does not produce a distinctly fungating mass. A smaller nodule was present in the upper portion of the fundus, and also appeared to be penetrating the myometrial wall. This tumor appears to be an aggressive lesion which is entirely capable of invading the myometrium. One feature which tends to denote a more benign behavior is the fact that the tissue is not distinctly hemorrhagic and does not show gross evidence of necrosis. These two features are very important in assessing these tumors grossly. A small hemorrhagic area over the inferior aspect of the lesion and adjacent endometrial cavity is the site of the most recent curettage. The differential here is to determine whether we are dealing with a chorioadenoma destruens or a frankly malignant choriocarcinoma capable of metastasizing.

In such situation it is important to determine whether or not villous tissue is invading the myometrium. In this case we found, with relative ease, hydropic or hydatidiform villi deep within the myometrium between the muscle planes (Figure 4). There was a continuing and extensive proliferation of trophoblastic epithelium at the periphery of the villi.

Another feature which aids in this differentiation is the presence or absence of significant hemorrhage and necrosis. For the most part this lesion is composed of perfectly healthy molar type tissue without evidence of active necrosis. The villi are covered by

cytotrophoblast and syncytiotrophoblast. The latter frequently exhibited vacuoles, a feature of anaplasia to which we have referred.

The presence or absence of abundant cord-like invasion of the myometrium is another feature that is looked for in an attempt to exclude choriocarcinoma. In this regard, I was somewhat disturbed by the presence of cords of trophoblastic tissue extending outward and almost isolating muscle groups. There is very little hemorrhage or necrosis associated with these cords of trophoblastic tissue, however, and only in rare areas were we able to demonstrate the lytic and destructive effect of malignant trophoblast.

One additional feature which we found disturbing was the presence of distinct uterine vascular sinuses (Figure 5) containing small and large masses of trophoblastic tissue apparently detached from the main mass. You will recall that we have discussed at other times the deportation of benign trophoblastic tissue to the lungs. The presence of trophoblastic tissue within veins certainly would predispose to that circumstance.

Examination of the endometrium showed the Arias-



Figure 3. Enlarged uterus containing two foci of chorioadenoma destruens (invasive mole).

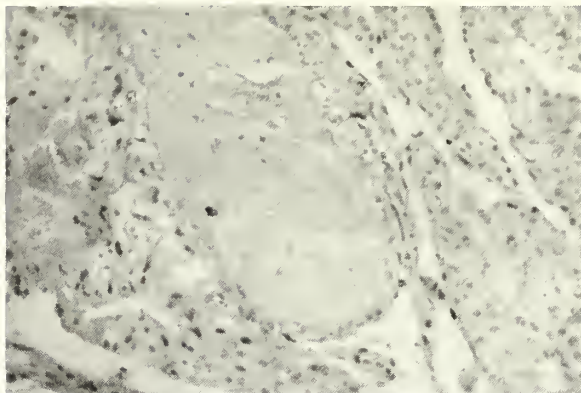


Figure 4. Hydropic villi and anaplastic trophoblast in uterine wall—chorioadenoma destruens.

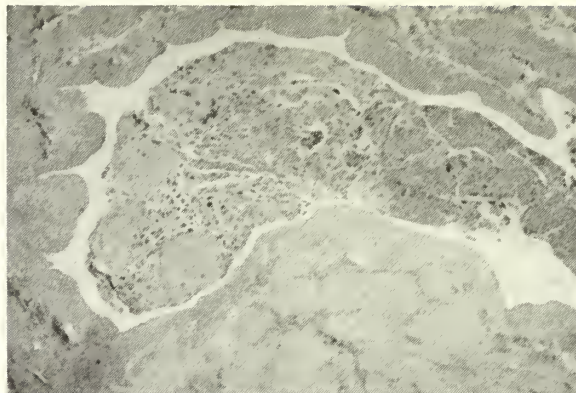


Figure 5. Anaplastic trophoblast in venous sinus of myometrium—chorioadenoma destruens.

Stella changes which are pathognomonic of gonadotrophic stimulation and were associated with decidual changes within the stroma.

To summarize, this is certainly a chorioadenoma destruens which is a destructive and invasive mole. I

am reluctant to definitely exclude the possibility that some of the trophoblastic tissue may not have become even more malignant and assume the properties of a choriocarcinoma. I believe only the patient has the answer.

PREPARATION OF MANUSCRIPTS FOR THE JOURNAL

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Correspondence: Address all correspondence relating to publication of scientific papers to the Managing Editor.

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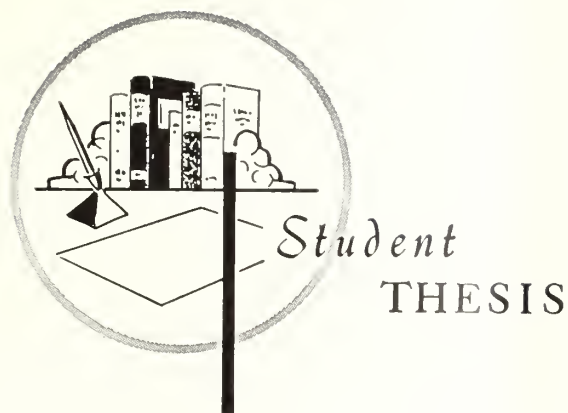
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Angiotensin

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IN 1898 TIGERSTEDT AND BERGMANN reported the presence of a pressor substance in the blood of hypertensive dogs. Goldblatt thought that renin, which was secreted by ischemic kidneys, was that pressor substance. However, Page, in 1939 and Taggart and Drury in 1940 demonstrated that the enzyme renin did not directly cause vasoconstriction and that contact with a substrate in blood was necessary. In 1940 the product of the renin-renin substrate reaction was extracted from an alpha-2 globulin fraction of the plasma in a partially purified form by Page in this country and Braun-Menendez in Argentina. The product was named angiotonin by Page and hypertensin by Braun-Menendez. In 1958, the compromise name, angiotensin was agreed upon by both investigators.

The exact role of angiotensin in the pathogenesis of hypertension is unknown at the present time; however, there is evidence to suggest that it may be an important factor in the pathogenesis of some forms of hypertension.

Chemistry

In 1957 Skeggs and his group determined the sequence of the first 14 amino acids of the renin substrate. He also noted that the chemical action of renin was to break the peptide bond between the 10th and 11th positions, thereby forming the decapeptide, angiotensin I. Like renin, this substance

did not have vasoconstrictor properties. It was necessary for the decapeptide to first be acted upon by a "converting enzyme," found in the blood, which splits off the two terminal amino acids, leaving the octapeptide, angiotensin II. The final proof of the amino acid sequence came later in 1957 with the synthesis of angiotensin II by Schwarz and Bumpus.

The amino acid sequence for angiotensin II is:

asp-arg-val-tyr-ileu-his-pro-phe
1 2 3 4 5 6 7 8

Valine may be substituted for isoleucine at position 5 without altering the physiologic activity of the compound. Both types, val-5 angiotensin and ileu-5 angiotensin occur naturally in different animals.

Effect of Chemical and Structural Alterations on the Physiologic Activity of Angiotensin II

Removal of amino acids 1 and 2 reduce the biological activity to about two to three per cent of the parent compound, while removal of only aspartic acid reduces the biological activity to 30 per cent. Removal of any of the other members of the peptide chain eliminates biological activity. The molecule may also be inactivated by removal of: (1) the C-terminal carboxyl group, (2) the aromatic rings of tyrosine and phenylalanine, and (3) the imidazole ring at position 6. It is also necessary for proline to be present in the number 7 position next to the terminal C-carboxyl group if the molecule is to maintain biological activity.

Smey believes that angiotensin assumes a three-dimensional configuration and tends to form an alpha-helix. In this confirmation, three of the groups required for biological activity, the two aromatic rings,

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Palmer is now serving in the U. S. Army Medical Corps, stationed at Fort Riley, Kansas.

and the terminal C-carboxyl group, are in close approximation. Smeby believes this may represent an "active site" on the angiotensin molecule.

Isolation of Naturally Occurring Renin and Angiotensin

In 1952 Kahn and Skeggs found the concentration of angiotensin in the plasma of patients with malignant hypertension to be 20 times that of a group of subjects with normal blood pressures. They also found that patients with essential hypertension had blood levels that averaged twice that of the normotensive group, although there was a considerable degree of overlap. They determined the blood levels by injecting extracted angiotensin intravenously into rats and comparing the results with injections of a standard angiotensin preparation.

Judson and Helmer in 1960 assayed renal vein blood for a "pressor substance" by use of rabbit aortic strips, and found the substance to be greatly increased in patients with malignant hypertension and slightly increased in patients with chronic hypertension. They believed this "substance" to be renin or angiotensin.

In 1961 a procedure for isolating a pressor substance having the same electrophoretic, chromatographic and physiologic properties as synthetic angiotensin was outlined by Boucher, Biron and Genest. To test the method, they added various amounts of synthetic angiotensin to blood taken from normotensive individuals and were able to recover 96 per cent of the added amount.

All of the work describing quantitative and qualitative measurements of angiotensin or renin has been challenged by Peart. He has not been able to recover renin or angiotensin from the renal veins of rabbits made hypertensive by clipping a renal artery and removing the contralateral kidney. Using a double catheter technique he was able to recover and measure renin which was infused into the distal portion of the renal vein and sampled at the proximal portion. He believes that the reports regarding the detection and measurement of renin or angiotensin are due to the measurement of artifacts. Peart's work is similar to that of Blaquier, who has not been able to demonstrate increased amounts of pressor substances in animals with experimental hypertension.

None of these investigators have actually prepared human angiotensin or purified it in order to study its chemical and physical properties and compare it with the animal and synthetic angiotensins. Walaszek, Bunag and Huggins have purified a substance, which they call "Substance A," from fraction IV-4 of human blood which they believe to be closely related to the angiotensin II octapeptides. They were not able

to distinguish Substance A from val-5 or ileu-5 angiotensin II. The enzyme used in the preparation was alpha amylase. This would pose the possibility that enzymes other than renin activate a pressor system similar or identical to the renin-angiotensin system found in humans.

Renin Substrate and the Liver

Since angiotensinogen is found in the alpha-2 globulin fraction of the plasma proteins, it is obvious that the liver plays a necessary role in maintaining the renin-angiotensin system. Increased plasma concentrations of angiotensinogen are found in experimental animals in the early stages of hemorrhage, in pregnancy, and following the administration of ACTH, cortisone, epinephrine or diethylstilbestrol. Decreased plasma concentrations of angiotensinogen are found in states of acute adrenal insufficiency, following the administration of large amounts of renin and following liver damage.

Leloir, Munoz, Taquini, Braun-Menendez and Fasciola demonstrated in 1942 that renin substrate or angiotensinogen was formed in the liver. They also noted that when the plasma concentration of renin substrate reached a certain level, the liver stopped producing it. All of these factors, the plasma concentration, the adrenals, the hypophysis, and perhaps other organs or organ systems control the production rate of angiotensinogen by the liver.

Loyke has shown that the production of liver damage by various methods, in experimental renal hypertensive dogs or rats can cause a gradual fall in blood pressure to normal levels. The presence of severe cirrhosis or terminal hepatic failure is not a requisite for this fall in pressure. Loyke states that fatty metamorphosis and a fall in serum albumin and a rise in serum globulin are the only anatomical and chemical requisites. He attributes this return to normal pressures to a deficiency of renin substrate. This phenomenon has also been observed in humans who had been hypertensive for some time and whose pressures fell to normal or near normal following various degrees of hepatic damage.

Enzymes other than renin may act on renin substrate to form pressor compounds. Among these enzymes are alpha-amylase, which has previously been mentioned, and pepsin. The latter enzyme releases a pressor substance from the substrate which has been given the name of pepsitensin. Pepsitensin is very much like angiotensin in its chemical, physiological and pharmacological properties.

Angiotensinase

Angiotensin is destroyed by an enzyme or a group of enzymes called angiotensinase. Angiotensinase is

found in many organs in the body with the highest concentrations being in the intestine and kidneys. It is also found in the plasma, where the concentration decreases after bilateral nephrectomy. Dexter and Haynes have not found any abnormal change in plasma angiotensinase content in hypertensive dogs. Harakal and Collins have demonstrated fluctuations in plasma angiotensinase levels in dogs made hypertensive by clipping the renal artery or by injections of silica. The changes were not consistent, and varied from above normal to below normal levels in different dogs.

Gollan, Richardson and Goldblatt demonstrated that infusions of large amounts of plant angiotensinase into hypertensive dogs reduced the blood pressure to normal levels during the period of infusion. They also found that normotensive dogs had a reduced response to renin if angiotensinase was infused simultaneously.

The Metabolism of Angiotensin

In order to study the degradation and elimination of angiotensin, Mendlowitz injected I^{131} labeled angiotensin II into both normotensive and hypertensive subjects following large oral doses of Lugol's solution. He found the turnover and renal excretion of this product (or a metabolite) to be slower in hypertensives than in normal individuals. The mean half-life in normotensives was 10.3 hours, with a range of 8 to 12 hours, and in the hypertensives 15.8 hours, with a range of 12 to 19 hours.

This work is challenged by Laragh who does not believe this *in vivo* half-life to be accurate since the known biological half-life of angiotensin is very short. Bumpus also questions Mendlowitz's findings pointing out that most proteolytic enzymes destroy angiotensin very rapidly with the exception of converting enzyme and renin. Both Bumpus and Laragh believe that Mendlowitz is measuring radioactive metabolites of angiotensin degradation and not angiotensin itself. Wood also has done work which indicates that the half-life of angiotensin is much shorter than suggested by the work of Mendlowitz.

Genetic Control of Angiotensin Metabolism

Sir Robert Platt believes that essential hypertension is a specific hereditary disorder. There is now evidence that angiotensin metabolism is probably related to a genetic factor.

Doyle and Fraser have found that the forearm vascular response to infusions of angiotensin and norepinephrine is significantly increased in subjects who are the children of hypertensive individuals. Wood has investigated the possibility of a genetic factor controlling the neutralization of angiotensin.

In his experiment, he incubated the subjects' blood for ten minutes with angiotensin, in a sterile, heparinized system, then slowly reinfused the blood into the subjects and measured the pressor response. He feels that he is measuring a level of angiotensinase activity. Studies in families with this method have shown a direct relationship between neutralization properties of offspring and the blood pressure and neutralization properties of their parents.

Site of Action of Angiotensin on the Cell

Smeby believes the site of action of angiotensin is localized to the cell wall. Studies done with large molecular weight molecules of angiotensin derivatives suggest that angiotensin does not permeate the cell, but that it functions outside the cell wall and possibly upon the cell membrane itself. When the amino group of synthetic angiotensin was combined with substances with molecular weights varying between 10,000 and 200,000 it was found that these compounds were as active as the parent compound. Since these compounds were too large to pass through the cell membrane, it is presumed they act at this site.

Tobian believes some of the intracellular changes of water and electrolytes are secondary to changes in the cell membranes of the aortic smooth muscle or to changes in the number of binding sites of the intracellular proteins.

Response of Smooth Muscle to Angiotensin

Ludueno demonstrated that angiotensin caused contraction of smooth muscle preparations. Page and Khairallah have shown that this contractile effect of angiotensin was due to two mechanisms. By using intestinal strips, they were able to reduce the contractile response to angiotensin by 60-70 per cent with atropine and morphine. This indicates that angiotensin, in part, causes contraction of the smooth muscle by stimulation of the parasympathetic nerve endings. The remainder of the response must be due to a direct effect on the smooth muscle. This suggests that angiotensin acts mainly in an indirect manner on the smooth muscle of the gut by causing a release of acetylcholine. This mechanism is further substantiated by the use of cholinesterase inhibitors which reverse the blocking effect of atropine and morphine, and in fact potentiate the response to angiotensin.

Mendlowitz demonstrated the vasoconstricting property of angiotensin II in the digital vessels of both normotensive and hypertensive individuals. He found that patients with essential hypertension were more reactive than normal subjects and that angiotensin II was about ten times more potent than nor-

epinephrine in both groups. In contrast to the group with essential hypertension, patients with pure renal hypertension had responses similar to the normotensive control group when given infusions of norepinephrine or angiotensin. Similar experiments by Doyle and Fraser and by Wood have correlated with the findings of Mendlowitz.

Other Hemodynamic Effects of Angiotensin

Finnerty and his group have shown that there is a consistent slowing of the heart rate during continuous infusions of angiotensin II in normal subjects. He also noted a significant increase in diastolic pressure, an increase in venous pressure, a slight decrease in cardiac output, and a marked increase in total peripheral resistance. He demonstrated that the vasoconstrictor action of angiotensin II can be completely blocked by simultaneous infusions of 1-epinephrine. The mechanism of inhibition of vasoconstriction by catechol amines is vague but Smeby and Bumpus postulate that the inhibition takes place on the cell membrane where angiotensin and 1-epinephrine act in a similar area. Finnerty offers no explanation for this inhibitory phenomenon.

Effect of Venous Pressure

Rose, in his studies of the hemodynamic effects of infusions of angiotensin II, has found no measurable venoconstriction and no decrease in the systemic vascular capacity. However, Wood has found that angiotensin infusions produce a concomitant veno and arteriolar constriction in normal individuals while producing only arteriolar constriction in hypertensive individuals. He suggests the lack of venous response in hypertensives is because of previous exposure of these vessels to a material similar to angiotensin.

Gross and Bock have shown an increase in central venous pressure during infusions of very large amounts of angiotensin in dogs. They attribute the rise in venous pressure to a reflex response and not a direct effect on the venous wall as is found with norepinephrine. They found that pentothal anesthesia or atropinization blocked the rise in venous pressure due to the infusion of angiotensin, indicating that this rise was probably a reflex response.

Renal Vascular Response

With continuous, 24-hour infusions of angiotensin II in normal subjects at a rate and concentration sufficient to raise the mean arterial pressure 30 mm Hg, Finnerty and his group noted the following renal physiological responses: (1) a slight decrease in urinary volume, (2) a marked decrease in renal blood flow, (3) a moderate decrease in filtration rate, and

(4) an increase in filtration fraction. This work coincides with a similar study done by Bock and Kriecke. Peart believes the renal vascular response to infusions of large amounts of angiotensin to be a marked vasoconstriction (arteriolar) such as is found in acute glomerulonephritis.

Effect on Pulmonary Vasculature

Rose has shown that the pulmonary vascular bed is not affected by infusions of angiotensin II in contrast to norepinephrine which causes a pulmonary vasoconstriction with a concomitant rise in pulmonary arterial pressure and a decrease in pulmonary venous flow. This work is in contrast with the work done by Sancetta who has found a rise in pulmonary arterial pressure with systemic infusions of angiotensin II. An explanation for the rise in pulmonic pressure was offered in 1942 by Friedberg, Katz and Steinitz who suggested that a transient elevation of pulmonary arterial pressure during the systemic infusions of angiotensin was secondary to an elevated left atrial pressure resulting from transient left heart failure.

Tachyphylaxis

Taggart and Drury demonstrated that successive doses of renin injected into rabbits produced a decreasing response. Page and Helmer, and Gross and Bock demonstrated that angiotensin exhibited tachyphylaxis. Gross and Bock gave excessively large doses of angiotensin II (20-50 Microgm/kg) and found that the pressor effect of subsequent doses was diminished. They also noted diminished pressor responses to angiotensin following a very large dose of renin, demonstrating a cross-tachyphylaxis. Renal responses to angiotensin exhibited a similar tachyphylaxis with a gradually increasing glomerular filtration rate.

Gross and Bock also demonstrated that tachyphylaxis was present in the venous pressure response following large doses of angiotensin II.

The Renal-Adrenal System

Anatomically the juxtaglomerular apparatus (JGA) consists of two different types of cells, the granular cells and the macula densa cells. The granular cells lie within the medial layer of the afferent renal arteriole and abut the intima. On the opposite side, the granular cells interdigitate with the macula densa cells which are actually part of the wall of the distal convoluted tubule. The two cell types are closely related physiologically as well as anatomically. Changes in the secretion of the granular cells are accompanied by changes in enzyme activity in the macula densa.

Microdissection techniques by Bing and Cook have limited the area of renin secretion to the JGA but not specifically to the granular cells or the macula densa. Hartroft and Edelman, by the use of fluorescent antibody techniques, made preparations of antirenin and rabbit kidney frozen sections and demonstrated that the antibodies attached to the cytoplasm of the granular cells. This experiment would seem to leave little doubt as to the locus of renin in the kidney.

Many investigators have correlated the amount of extractable renin from rat kidneys with the granularity of the JGA in salt depleted rats, rats with renal artery clips and rats receiving desoxycorticosterone and salt loaded diets. They discovered that the JGA granulation and the measured extractable renin both increased in clipped kidneys, in kidneys of rats on salt depleted diets and kidneys of rats with adrenal insufficiency. They also noted a decreased granularity of the JGA, and a concomitant decrease in the amount of extractable renin in the kidneys of rats on salt loaded diets and in rats receiving desoxycorticosterone and salt in the kidney opposite the "clipped" kidney. If the "clipped" kidney was removed, "curing" the hypertension, the JGA granularity was restored to its normal state and renin secretion restored to normal in the contralateral kidney.

These findings indicate that the JGA acts as a stretch or volume receptor, increasing its granularity and secretions (renin) in the presence of low perfusion pressure, and decreased circulating blood volume, and decreasing its granularity and renin secretion in the presence of high pressures and increased circulating blood volume.

Angiotensin and Aldosterone

Genest has consistently demonstrated elevated urinary aldosterone excretion in hypertensive patients as compared to normal subjects.

The higher levels in the hypertensives were not constant but varied from near normal to excessively high amounts. Warter and his associates challenge this finding in their publication of a series of 103 hypertensive patients in which only 29 per cent had hyperaldosteronuria. Warter's work is in agreement with that of Laragh, and Carpenter, Davis and Ayers, who have not been able to demonstrate significant increases in aldosterone secretion in benign or mild forms of hypertension, but have consistently found elevated aldosterone secretion in patients with malignant hypertension.

Deane and Masson and Hartroft have demonstrated an enlargement of the zona glomerulosa of the adrenal following administration of renin to rats. Genest,

by infusing angiotensin in normal subjects, noted a marked trophic effect on aldosterone secretion, with hyperaldosteronuria, sodium retention and anti-diuresis.

Genest has shown that hypertensive and normal individuals react differently to infusions of angiotensin. Although both have increased urinary aldosterone, in the normotensive subjects the urinary sodium/potassium ratio is greatly reduced and there is an antidiuretic effect. In the hypertensives, the opposite takes place. The urinary sodium/potassium ratio is increased and there is a diuresis. Peart's findings are similar to Genest's, but he did not measure urinary aldosterone levels. It was his impression that the urine and sodium excretion was not mediated through the renal-adrenal pathway. He suggested that the hyperaldosteronuria was a reflection of increased aldosterone excretion rather than increased production. He felt that the changes in urinary output and Na excretion were a direct effect of angiotensin on the renal tubules. This was substantiated by infusing angiotensin into a patient with essential hypertension in amounts insufficient to affect the blood pressure and still produce a diuresis and concomitant Na excretion. In normotensive subjects he was able to diminish urine flow with large doses of angiotensin and suggested that this was due to a direct effect on the arterioles such as is found in acute glomerulonephritis. Peart also noted the response to angiotensin became normal if the blood pressure of patients with renal hypertension was restored to normal, by reconstructive surgery or by drugs.

Relation of Intercellular Electrolyte Changes to Hypertension

Tobian has demonstrated that in hypertensive animals a higher concentration of sodium, potassium and water is found in aortic smooth muscle cells than is found in similar cells in normotensive animals. From these findings he postulates that something related to the hypertensive state either changes the cell membrane of the arterial muscle cells or changes the number of intracellular binding sites or both. He suggests the following may be contributory mechanisms of hypertension: (1) the cells become swollen because of accumulation of water and ions, thereby passively reducing the size of the lumen of the vessel, (2) that altered ionic composition could affect the molecular kinetics of actomyosin to produce an excessive shortening of the smooth muscle fibers, thereby having the same effect as swelling, (3) the increased intracellular electrolytes have an effect on the membrane potential of the cell to alter the response of the cell to endogenous pressor substances.

Arguments Against Renin (Angiotensin)—Aldosterone Relation as a Cause for Hypertension

The prompt decrease (in 8-12 hours) of an elevated blood pressure following removal of a clamped kidney suggests that this form of hypertension is not due to renal-adrenal mechanism. If adrenal glands are removed, it takes three to five days for blood pressure to return to normal. If a single mechanism were involved the return to normotensive level should be more prompt with removal of adrenals.

Gross states that renal hypertension in rats is refractory to therapy with saluretics. This would also suggest that the renin-aldosterone relationship is not the causative factor in experimental renal hypertension.

Bartter *et al.* have presented findings of a "new syndrome" in which they describe three patients with hyperaldosteronuria hyperplasia and hypertrophy of the juxtaglomerular apparatus, resistance to the pressor action of infused angiotensin, and persistently normal blood pressures. These patients also had a hypokalemic alkalosis. The infusion of human renin into these patients elicited a rise in blood pressure, although this rise was small. The infusion of angiotensin I elicited a similar rise, indicating the presence of converting enzyme. Angiotensin II infusions caused a small rise in blood pressure, which was much smaller than that found in normal subjects, and one of the patients exhibited tachyphylaxis to infusions of small amounts of angiotensin. To explain the absence of hypertension in these patients the authors postulate a block in the direct vasoconstrictor effect of angiotensin. Laragh has shown that patients with cirrhosis and ascites are relatively resistant to the pressor effects of angiotensin, but also are somewhat resistant to the pressor effects of norepinephrine which was not so with Bartter's patients. Reubi also points out that patients with heart failure (not due to hypertensive cardiovascular disease) and those with cirrhosis seldom have hypertension, although they have been shown to have increased levels of aldosterone.

Laragh also questions the renal-adrenal mechanism in malignant hypertension where he and Genest both have demonstrated hyperaldosteronuria. He suggests that the renin secreting mechanism cannot function in the presence of the severe renal damage found in this syndrome.

Summary

Angiotensin II is a naturally occurring polypeptide which has potent vasoconstrictive properties. It was first discovered in 1940 but was not synthesized until 1957 when it became available for study of its physi-

ological, pharmacological and chemical properties. The exact role that angiotensin plays in the pathogenesis of hypertension is not known.

Renin is secreted by the juxtaglomerular apparatus of the kidney. Its secretion is controlled by changes in perfusion pressure, electrolyte balance, blood volume and combinations of these. Renin acts on an alpha-2 globulin (angiotensinogen) produced in the liver to produce angiotensin I. The production of angiotensinogen is altered during pregnancy and hemorrhage, but is controlled by the pituitary and adrenal glands as well as a feedback mechanism.

Angiotensin I is converted to angiotensin II by a proteolytic enzyme (converting enzyme). Other enzymes such as alpha amylase and pepsin are capable of converting angiotensinogen to angiotensin. Angiotensin II, the active pressor substance, is inactivated by a group of enzymes called angiotensinase.

Angiotensin produces its pressor effect by direct action on the arteriolar cell wall or indirectly by producing a shift in electrolytes across the cell membrane. Angiotensin is also a trophic hormone stimulating the zona glomerulosa of the adrenal to produce aldosterone. Although there is some evidence to suggest that this is related to the production of hypertension, there is also considerable conflicting evidence concerning this mechanism.

It is not yet known whether angiotensin has a role in the production of hypertension in man. However, the search for its role has been rich in the production of physiological and biochemical data.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

INTERNATIONAL USE OF EMERGENCY MEDICAL I.D. SYMBOL

The emergency medical identification symbol sponsored by the American Medical Association for universal use was adopted by the Assembly of the World Medical Association at their meeting in Helsinki, Finland, in June, 1964.

The resolution stated "that this symbol—be adopted by the World Medical Association as the universal emergency medical information symbol, and that its use on identification tags, bracelets and cards be encouraged among the people of the world."

International travellers wearing the universal symbol as an indicator of their special needs in an emergency, will soon have it recognized for what it is in the 58 member nations of the WMA. This is a significant advance in international cooperation for health protection.

Information about the symbol and its use may be obtained from the American Medical Association.

The President's Message

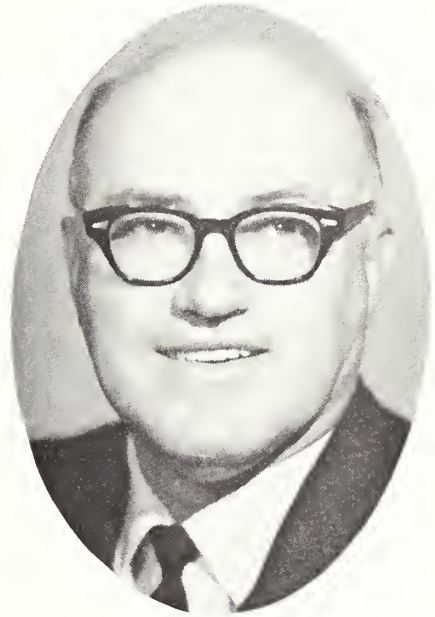
DEAR DOCTOR:

This year I have become impressed by the work being done in the Woman's Auxiliary to the Kansas Medical Society. Wonder if we doctors fully appreciate the value of this organization and the influence they have?

Their program this year centers around political action. In district meetings at Manhattan and Wakeeney—the first two attended—I found wives to be well informed on issues and willing to work in any direction suggested. This is the only group which admits taking orders from us, and does nothing which has not first been approved by the Society—what better could we have going for us?

I was invited by Mrs. Lessenden, president of the state Auxiliary, to attend the dinner of the fall board meeting in Topeka October 22. Other auxiliary presidents and committee heads from over the state gathered for a two-day meeting. I am quite sure each one had made some sacrifice to be there—and certain they were attending solely because they are doctors' wives, presently interested in securing sound legislation.

So, if you don't quite know all you'd like about KAMPAC, the new drivers license law, or the Kerr-Mills program, discuss it with your wife. Chances are you'll get your information if she's an auxiliary member.



Sincerely,

John C. Mitchell, Jr.

President

Best Wishes to Bill Nelligan

The Kansas Medical Society is truly sorry to lose the services of William Nelligan. He has been a most effective and inspiring servant in the cause of graduate education. Every physician who has through the years come in contact with Bill will add his personal best wishes to those of this Society, for a happy future in the new field of work which Mr. Nelligan is entering.

We know you will wish to read the letter appearing below which Bill wrote to each of you.

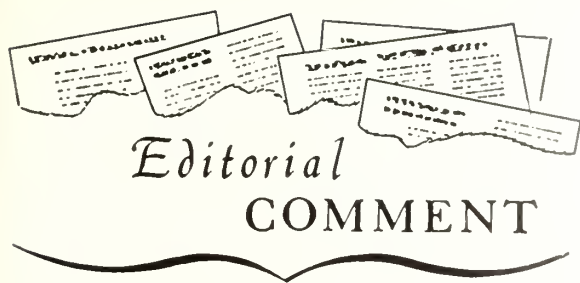
To the Membership of the Kansas Medical Society—

On October 1 I will be leaving the University of Kansas School of Medicine to assume the position of Director of Development at the Medical College of Georgia in Augusta. It would indeed be a mistake for me to leave Kansas without taking this opportunity to express my sincere appreciation for the warm friendships which I have made with the physicians of Kansas and to again thank you for the wonderful support which you have given to our School and especially to our Department of Postgraduate Medical Education. I am sure you realize that such support is not equalled in any other state.

The decision to move was most difficult to make. However, the opportunities which my new affiliation affords are most challenging and should prove to be quite a stimulus, not only for myself but for our entire family.

I would hope that some of you might find it possible to attend one of the continuing medical education courses which we will offer at the Medical College of Georgia. When you are in or near Augusta, please pay us a visit. Both Dorothy and I would be delighted to continue our very pleasant relationships.

WILLIAM D. NELLIGAN, *Executive Director*
Department of Postgraduate Medical Education
University of Kansas School of Medicine



Editorial COMMENT

This was written 30 days ago. Many political charges and countercharges will have been aired before you read this today. Issues may have altered, as for example, at this writing, the Medicare question is still pending. Thus, no valid comment can be made on details.

The big issue is clear and it will not change. Nor is it partisan in nature. Stated simply, the question is merely, "What form of government do you want?" Some representing both major parties want central control, others from both parties believe authority should be limited to those areas that cannot be locally resolved.

On November 3 the people will decide and thereafter we are on our way. Of course you will vote, but between now and that date the good citizen, the enlightened citizen, the thoughtful citizen will be active. He will express his views. If the principle is good enough for you as a physician to adopt, why should you not share your opinion with others? If you know of a candidate who shares your view why do you not give the benefit of your knowledge to those with whom you come in contact? More bluntly, if you believe your political stand to be true are you, then, ashamed of it? If you want your view to prevail, is your argument so weak that you cannot persuade others?—Or what?

You know the answer. Of course you will vote, but what does this mean unless the majority vote as you do? Why should they, unless you prove the truth of your stand? So, the outcome will reflect the extent of your effort. Not the effort you make on November 3

as you cast your ballot, but how effective you are prior to that date.

Statistics

If there is a relationship between these items it is not immediately apparent and, yet, somehow there must be a bridge between them.

The AMA in its testimony before the Congress on the King-Anderson bill said of all persons who ever reached the age of 65 years one fourth are living today.

Statistics show the average life expectancy in 1900 to have been 49 years. Today it has passed 70 years and responsible people are now speaking in terms of 100.

Not one of the first ten causes of death in 1900 remains in the first ten today.

Blue Cross reports in 1950 they paid 942 hospital days per 1,000 members and in 1963 this figure had risen to 1,331.

In 1940 four per cent of the consumer's dollar was spent for health care. In 1960 this had risen to six per cent.

At this moment the government is attempting to pay for the cost of illness through taxation and there are some who are ready to vote for the plan.

And finally, there was the man whose hair had been coming out for years, but on the day the last strand fell to his shoulder, looked in the mirror and screamed, "I'm bald!"

Vote



Personalities—IN KANSAS MEDICINE

James H. Coffman, Oberlin, was recently elected chairman, and **Asher Dahl**, Colby, vice chairman, of the board of control of the proposed Northwest Kansas Mental Health Center.

George E. Burket, Kingman, and **Robert H. Riedel**, Topeka, were among the key speakers at the medical assistants' circuit course held in Dodge City in August.

The board of commissioners of Dickinson county has appointed **Jack Mohler**, Abilene, as county health officer. **L. R. McGill**, Hoisington, has been named county health officer of Barton county by the Health Department there. The county commissioners of Reno county selected **George Chickering**, Hutchinson, as county health officer at their meeting in September.

John D. Smith recently joined the medical partnership of **Mac F. Frederick** and **Robert T. LeNeve** in Hugoton. Dr. Smith formerly practiced in Satanta and more recently was on the medical staff at the university medical center in Norman, Oklahoma.

The appointment of **George L. Thorpe**, Wichita, to the City-County Board of Health was announced in August. Dr. Thorpe is director of outpatient services at St. Joseph Hospital and Rehabilitation Center in Wichita.

In September, the citizens of Nashville held a reception in honor of **Thornton L. Waylan** who has practiced in that community for 25 years.

The Hamilton County Association for Mental

Health had **Thomas P. Butcher**, Emporia, as the guest speaker at their meeting in August.

William E. Grove of Newton has been reappointed to a four-year term on the advisory hospital council of the State Board of Health by Governor John Anderson.

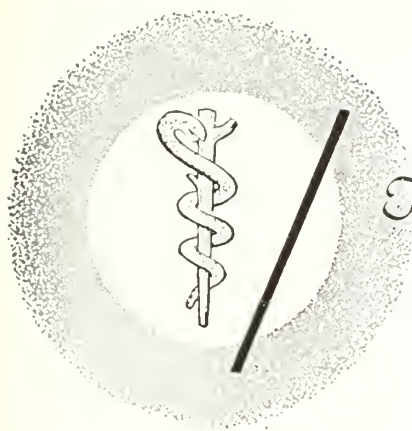
Arthur L. Ashmore, Wichita, was the speaker at the annual meeting of the Sedgwick County Unit of the American Cancer Society. Among the new officers elected for the fiscal year 1964-65 are **Jerome S. Menaker**, vice president, and **George J. Mastio**, medical advisor. Both are from Wichita.

William O. Martin, Topeka, is the new director of the Capper Foundation for Crippled Children. The announcement was made in September by **Henry S. Blake**, Topeka, the foundation president.

The Optimist Clubs of Wichita recently held a joint meeting at which **James B. Pretz** of Kansas City was the speaker. Dr. Pretz is governor of the Kansas District of Optimist International.

Donald C. Greaves, Kansas City, participated in the scientific session of the Washington University Medical Alumni program in St. Louis, in June.

William H. Zimmerman, Topeka, was elected president of the Shawnee County Unit of the American Cancer Society at the annual meeting in August. **Dwight Lawson** was elected representative director and **Arthur C. Cherry**, director-at-large. Dr. Lawson and Dr. Cherry are also from Topeka.



The Kansas Press Looks at Medicine

Editor's Note. In this section the JOURNAL reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

DOCTORS ADVISED TO TAKE STEPS TO IMPROVE IMAGE

The American medical profession was advised to take positive steps to improve its standing in the eyes of the public at a recent Public Relations institute sponsored by the American Medical Association at Chicago.

Editors told some 540 persons who attended that the public has a high regard for the scientific knowledge and technique of today's physician, but that he "has slipped badly in terms of compassion."

Scientific progress has ended the physician's role as a "bed-sitter," and made him much more efficient, but, "often he is not loved," the doctors were told.

The demand for medical care, improved techniques and other factors which have led to a decrease in the number of house calls have in fact raised the quality of care, said the editors, but "whenever a real emergency fails to get a response, the scars go deep."

Physicians were told that, "If medicine wants to maintain its humanitarian image, it must be prepared like the fire department, to answer all alarms."

It was the consensus among editors who formed a panel that a program of public relations for the medical profession will work best at the local level, and should be designed to show Americans that "doctors are seriously concerned with the public's welfare."

As an occasional patient, we are thoroughly con-

vinced that most physicians are concerned with the public's welfare.

As an editor, however, we are just as thoroughly convinced that most doctors give not a whit what kind of public image they project.

But nearly any discussion has two sides.

Admittedly, doctors are busy. There is a shortage of physicians in nearly every community. Doctors have little time for chit-chat.

Understandably, many medical terms are not easily understood by laymen. Newsmen often ask questions of doctors that the doctors feel are none of the newsmen's business.

On the other side of the coin, no doctor is too busy to smile a little. A simple explanation of the treatment prescribed can do wonders in terms of patient reassurance. Patients are perplexed when their illness (which has been keeping them awake nights) can be diagnosed in one 10-second glance of the doctor's eye.

Patients want to know what is wrong with them. They resent being brushed off with a sharp rebuke. It is possible that physicians sometimes underestimate the intelligence of their patients.

There is little doubt that health is among the most interesting human topics. Physicians who take time to help inform people about the subject will provide an important service to man.—*Coffeyville Daily Journal*, September 2, 1964.

KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on November 27-28, 1964, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application forms and other information can be obtained from Dr. Elbert W. Crandall, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

KANSAS STATE DEPARTMENT OF HEALTH
TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in June, 1964 and 1963

<i>Diseases</i>	<i>June</i>		<i>5-Year Median 1960-1964</i>	<i>January to June Inclusive</i>		<i>5-Year Median 1960-1964</i>
	<i>1964</i>	<i>1963</i>		<i>1964</i>	<i>1963</i>	
Amebiasis	—	2	2	10	74	30
Aseptic meningitis	—	—	—	1	—	1
Brucellosis	—	—	—	1	6	13
Cancer	866	330	397	2,321	2,018	2,018
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	2	1	1	20	4	10
Gonorrhea	348	228	240	1,531	1,398	1,398
Hepatitis, infectious	40	21	24	404	130	309
Meningitis, meningococcal	1	3	1	6	8	9
Pertussis	2	3	—	13	29	17
Poliomylitis	—	—	—	—	—	—
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	16	19	6	81	109	22
Scarlet fever	—	4	4	65	277	400
Shigellosis	9	—	3	142	18	62
Streptococcal infections	29	25	46	1,053	786	861
Syphilis	92	89	112	490	568	606
Tinea capitis	2	2	4	46	42	53
Tuberculosis	21	31	26	132	151	141
Tularemia	—	—	—	4	6	6
Typhoid fever	—	—	—	2	—	2

**PROTECTION AGAINST DISEASE:
VACCINATION ASSISTANCE EMPHASIZES
CREATING AND MAINTAINING IMMUNITY
AGAINST DIPHTHERIA, PERTUSSIS,
TETANUS, POLIO, AND SMALLPOX**

Morbidity trends of three diseases listed on this report—diphtheria, pertussis, and polio—have been greatly changed by the field of immunology and the concepts of mass immunization. Two other diseases—tetanus and smallpox—can also be controlled by highly effective vaccines. To further increase and to maintain protection against these diseases, Congress in 1962 approved the Vaccination Assistance Act, "To assist States and communities to carry out intensive vaccination programs designed to protect their populations, particularly all preschool children, against poliomyelitis, diphtheria, whooping cough, and tetanus."

Because incidence of these diseases is relatively low, there is a tendency to become apathetic about proper protection. Necessary booster immunizations are neglected and many children do not receive immunization before entering school. Simple calcula-

tions point out the danger involved in failure to immunize: Approximately 50,000 babies are born each year in Kansas. If only half of these children are immunized throughout a ten year period, then our population would include *over* a quarter of a million persons susceptible to these crippling and killing diseases. (No vaccine is 100 per cent effective.)

In case of war, crowded shelters would become ideal for the transmission of communicable diseases. Epidemics of major proportions could result from single cases of diphtheria, polio, or smallpox.

The Kansas Vaccination Assistance Program, which forms a section of the Division of Disease Prevention and Control, is working to aid local health units and communities in raising immunization levels. The program is planning activities to aid in community education and motivation, to provide quantities of DPT and polio vaccines for preschool children, and to assist in the organization of local immunization clinics.

Guidelines for this work are being provided by a continuous statewide survey of immunization levels. The survey consists of a card sent to a random selec-

tion of the parents of one and three year old children throughout the state. The card is printed with a form that enables parents to report on the immunizations received by their child for whom the card is sent.

Statistical analyses insure that the results of the card survey reflect a valid index of the level of immunization among preschool children.

For a further check of the card survey, and to determine immunization levels among all age groups within the population, a quota-sampling technique is being utilized in certain areas of the state. This survey involves personal contact with the heads-of-household of a statistically guided random selection of homes.

Vaccination Assistance personnel with the Kansas program include a program director, a public health advisor (USPHS), three public health educators, and two graduate nurses. The staff is available to local health units to assist in educational, promotional, and organizational activities to aid with immunization programs.

KANSANS ON A NATIONAL PROGRAM

Kansas medicine is represented in force on the program of the 37th Annual Scientific Sessions of the American Heart Association at Atlantic City October 23-25. These sessions draw one of the largest attendances among national specialty medical meetings. For the past several years they have attracted between 4,000 and 5,000 physicians.

C. Frederick Kittle, Associate Professor of Surgery at KU Medical Center is a member of the Program Committee of the Council on Cardiovascular Surgery. He will chair the Session on Cardiovascular Surgery on October 25, with Clarence Dennis, New York City.

On Saturday, October 24, Hughes W. Day, Director of the Cardiac Unit which has received nationwide recognition at Bethany Hospital, Kansas City, Kansas will join with Samuel F. Fox of Washington, D. C. and Robert A. Bruce of Seattle in a Cardiovascular Conference on "Special Acute Care Units for Cardiac Patients." Kansas doctors will be interested also in the exhibit in Convention Hall devoted to this subject by Clarence Imboden, Jr., Washington, D. C.

"The exhibit shows the constant monitoring of coronary patients and specialized treatment in a coronary care unit has resulted in an 82 per cent survival at Presbyterian Hospital, Philadelphia, and Bethany Hospital, Kansas City. Also presented are architectural drawings and a large scale model of a basic coronary care unit together with necessary equipment."

Kenneth L. Goetz, Kansas City, Kansas, of the department of physiology, KU Medical Center will present a paper Friday afternoon on "The Effect of Pressure Changes Within the Right Heart Upon the Heart Rate in Dogs."

Antoni M. Diehl, Chief of Pediatric Cardiology at the KU Medical Center, Ronald M. Lauer and Choompol Vongprateep will discuss "Intraesophageal Phonocardiography as a Detector of Rheumatic Heart Lesions" on Saturday morning. Dr. Diehl is President-Elect of the Kaw Valley Heart Association.

On Saturday afternoon William A. Reed, Assistant Professor of Surgery at KU Medical Center will discuss "Selection of Palliative Operation for Transposition of the Great Vessels."

In addition to these Kansas Medical Society members, many will recall Richard J. Bing now of Detroit and formerly of St. Louis, who has visited and spoken in Kansas, and E. Grey Dimond now lecturer and formerly Chairman of Medicine at KU Medical Center, now at Scripps Research Foundation, La Jolla, California. Dr. Bing is a member of the Committee on the Scientific Sessions Program. Dr. Dimond appears twice on the program, first on Friday presenting with four of his staff a paper on "Cardiac Function in Heart Block at a Variable Heart Rate"; again Saturday with J. Willis Hurst, Atlanta and Demetrio Sodi-Pallares, Mexico City in "Interpretation of 'Unknown' Electrocardiograms." Dr. Sodi-Pallares will be remembered for drawing one of the largest enrollments on record when he appeared on the KU Medical Center Post-Graduate program not long ago.

If you are planning to attend these sessions: The \$15 registration fee for the Scientific Sessions is waived for members of the Heart Association. Presentation of your membership card is required. If you are not a member, or need a duplicate card, ask your Heart Association office at once. For northeast Kansas the Kaw Valley Heart Association, KU Medical Center, Kansas City, Kansas. For Wichita and Sedgwick County the Sedgwick County Heart Association, 2827 East Central, Wichita. For all other sections of Kansas, the Kansas Heart Association, 2941 Fremont, Topeka, Kansas.

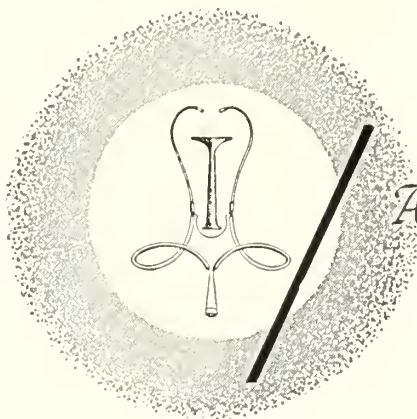
Presents, I often say, endear absents.

—Charles Lamb

A man is known by the silence he keeps.

—Oliver Herford

Patience is passion tamed.—Lyman Abbott



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

OCTOBER

- Oct. 22-24 District VII, American College of Obstetricians and Gynecologists, Birmingham, Ala. Contact: John B. Nettles, M.D., Dept. of Ob-Gyn, Univ. of Ark. Medical Center, Little Rock.
- Oct. 22-24 Kansas Academy of General Practice—14th Annual Scientific Assembly—Broadview Hotel, Wichita.
- Oct. 29-31 Symposium "Endocrines and Aging"—annual meeting, Gerontological Society, Leamington Hotel, Minneapolis. Write: Ernst Simonson, M.D., Laboratory of Physiological Hygiene, Stadium Gate 27, Univ. of Minnesota, Minneapolis 55455.
- Oct. 30-31 1st National Conference on Health Education, AMA Headquarters, Chicago.

NOVEMBER

- Nov. 16-18 Scientific meeting, Section on Otolaryngology, Southern Medical Association, Memphis, Tenn. Write: Neil Callahan, M.D., 506 Professional Bldg., Portsmouth, Virginia.
- Nov. 9-11 Scientific meeting, Interstate Postgraduate Medical Association, Pittsburgh. Write: Interstate Postgraduate Medical Assn., Box 1109, Madison 1, Wisc.
- Nov. 20-21 Annual M.D. Day, University of Missouri Medical Center, Columbia. Contact: Gail Bank, Exec. Dir., Postgraduate Medical Education, Univ. of Mo. Medical Center, Columbia.
- Nov. 16-19 Annual meeting, Section of Ophthalmology of the Southern Medical Association, Memphis, Tenn. Write: George S. Ellis, M.D., 812 Maison Blanche Building, New Orleans 16.

- Nov. 29 6th National Conference on Medical Aspects of Sports, sponsored by AMA, Miami Beach. Write Secretary, Comm. on the Medical Aspects of Sports, AMA, 535 N. Dearborn St., Chicago 60610.
- Nov. 29-
Dec. 2 AMA Annual Clinical Conference, Miami Beach.

POSTGRADUATE COURSES

- American College of Chest Physicians.
- Oct. 26-30 *Clinical Cardiopulmonary Physiology*, Chicago.
- Nov. 9-13 *Recent Advances in the Diagnosis and Treatment of Disease of the Heart and Lungs*. Nov. 9-13, Washington, D. C. Nov. 16-20, New York City.

For more information on above courses, write to the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

- Oct. 22-24 *Gastroenterology*—American College of Gastroenterology, New York City. Write American College of Gastroenterology, 33 W. 60th St., New York 10023.

American College of Physicians:

- Nov. 16-20 *Fundamental Concepts of Gastroenterology*, Ann Arbor, Mich.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia, 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska postgraduate courses:

- Nov. 19-20 *Congenital Malformations*
- Dec. 7-8 *Basic Review of Biochemistry for Practicing Physicians*
- Dec. 18-19 *New Horizons in Lymphoma and Leukemia*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha, 68105.



Book REVIEWS

CLINICAL METABOLISM OF BODY WATER AND ELECTROLYTES, by John H. Bland, M.D., W. B. Saunders Company, Philadelphia, 1963. 623 pages, illustrated. \$16.50.

Early in the course of this reviewer's medical education, a wise upperclassman advised him to procure a certain small paperback booklet on the subject of body water and electrolytes. This booklet proved of invaluable help. In the intervening 20 years, a vast amount of work has been done on the metabolism and dynamics of electrolytes, and flame photometers have become almost as common as hemocytometers, yet the subject remains quite complex and frequently confusing. It is apparent that many practitioners have not kept up with the growing knowledge of this subject when one observes treatment administered in our hospital wards.

This volume is a commendable effort to bring together in one place a complete picture of our present understanding of this subject, along with useful recommendations as to diagnosis and therapy. As the editor states, "This belongs in the knowledge of every physician who sees patients, for every seriously ill patient has need of it." In compiling this volume, the editor has had the assistance of some 21 other authors from all corners of the world (though most of them seem to be working in Vermont or Boston) and all of them seem competent in their field. The first 225 pages are devoted to general and theoretical considerations of electrolyte and fluid physiology, while the remainder of the book considers various clinical conditions and specific diseases in relation to water and electrolyte abnormalities. Fairly extensive bibliographies are appended to each chapter. There are numerous illustrations, diagrams, charts, and graphs to facilitate understanding of the text (including many modifications of those in the booklet mentioned above, and two or three versions of a contemporary classic diagram of CO_2 -bicarbonate relationships). The book is well printed and adequately bound.

The main problem of this book comes with reading it. It is too long for its purpose, or at least it seems that all that is said could be said in fewer

words. This stems at least in part from the literary style of the editor who has a way of going up three steps and back two in making every point so that he reads like a transcription of a medical school lecture. The style of the other contributors, of course, varies, but they have been allowed to devote too much time to covering material already explored in the introductory section of the book or digressing at length on material not particularly pertinent to water and electrolyte metabolism. For instance, the chapter on diabetes is 60 pages long (as opposed to 23 pages in a recent edition of Cecil's textbook), and the first mention of water is on the seventh page, the first discussion on the fifteenth page. The chapters on aging and shock seem likewise to contain a good deal of extraneous material. By contrast, the chapters on surgical problems and chronic renal failure are exceptionally informative. As a whole, the book covers the territory adequately.

In summary, this book contains a great deal of useful information which should be pertinent and helpful in the day to day care of many patients. The physician who is getting "behind the times" in the area of electrolyte metabolism could gain a great deal from studying it, as could the man preparing for his boards or a medical student. The clinician who has become familiar with it would find it a useful source of ready reference, but it certainly takes a lot of work to get familiar with it.—*J.E.S.*

FUNDAMENTALS OF OTOLARYNGOLOGY, 4th edition, by Lawrence R. Boies, M.D., Jerome A. Hilger, M.D., and Robert E. Priest, M.D. W. B. Saunders Company, Philadelphia, 1964. 553 pages illustrated. \$8.50.

The fourth edition of this book on ear, nose, and throat gives the generalist and specialist a ready source of information for managing the usual problems found in its field of coverage. An excellent bibliography related to each chapter is presented for those who wish to explore a given subject in more detail. The book's compactness, readability, and timeliness make it a worthwhile addition to any medical library.—*N.L.F.*

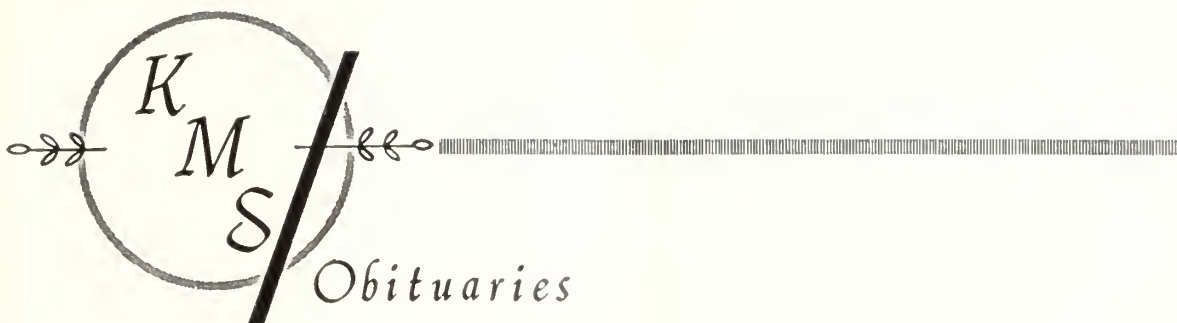


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HERBERT W. JURY, M.D.

Herbert W. Jury, 89, died August 1, 1964, at his home in Claflin.

He was born April 22, 1875, in Millersburg, Pennsylvania, and came to Kansas with his parents when he was four years old. He received his Doctor of Medicine degree from St. Louis University School of Medicine in 1902, and after serving his internship he began his medical practice in Claflin.

Dr. Jury served in the U. S. Army during World War I and was a member of the American Legion and the VFW as well as other civic and medical organizations.

He is survived by his wife, one son and three daughters.

WILLIAM H. NEEL, M.D.

William H. Neel, 87, a practicing physician in Wellington for more than 50 years died on September 2, 1964, in Muncie, Indiana, where he had been living for the past several years.

Dr. Neel was born May 4, 1877, at Brocktown, Tennessee. He graduated from the Kansas City Medical School in 1904 and started practicing medicine in Wellington shortly thereafter.

He retired from practice in 1950 and eight years later moved to Muncie, Indiana. He was a member of the Methodist Church and an honorary member of the Wellington Rotary Club.

Dr. Neel is survived by two sons.

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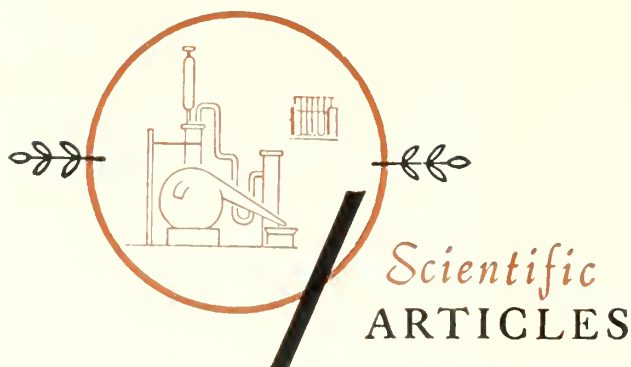
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American College of Physicians Issue

We are pleased that once more, for the third consecutive year, we can present the papers from the regional meeting of the American College of Physicians, held this year in Kansas City in February.

Again, we are indebted to Dr. John L. Morgan for his work in collecting the material, which has made the special issue a reality.



Gilbert's Disease

Ferrokinetics of Constitutional Hepatic Dysfunction

DONALD H. FREEMAN, M.D., SLOAN J. WILSON, M.D.,
and WILLIAM E. LARSEN, M.D., *Kansas City, Kansas**

THE EVALUATION of a mildly jaundiced patient can be difficult when there is an elevated indirect bilirubin in an otherwise normal young adult. The question arises as to whether there is a mild hemolytic disease or a congenital disorder of liver metabolism. In congenital disorders, the patient should be familiar with his disease, otherwise numerous costly hospitalizations will occur in a futile attempt to find the obscure cause of his "liver disease."

Mild hemolysis can occur in many diseases, i.e., acquired and congenital hemolytic anemia, disseminated lupus erythematosus, lymphogenous disorders such as leukemia and sarcoma, and viral diseases. Congenital disorders of bilirubin metabolism are differentiated on the basis of clinical and laboratory manifestations, and specific defects are not clearly defined.^{1, 2} The indirect bilirubin is elevated in constitutional hepatic dysfunction (Gilbert's disease). There is a generic aberration of bilirubin metabolism producing periods of unconjugated hyperbilirubi-

nemia, and the specific defect is believed to be in the liver microsomes.^{3, 4, 5}

Several of the cases described by Gilbert were later found to have hemolytic disease.⁶ Even today the diagnosis is difficult because the basic physiologic

Three young adult Caucasians were observed with a moderately elevated indirect bilirubin in whom a diagnosis had been made of constitutional hepatic dysfunction (Gilbert's disease). Ferrokinetic studies with Fe^{59} and red cell survival studies with Cr^{51} were done in each subject. The ferrokinetic studies were moderately abnormal in all three. In one there was moderately increased erythropoietic activity, and moderately increased hemolysis with the possibility of both intramedullary and extramedullary hemolysis. In the other two, there was an increased delivery of red cells from sites of erythropoiesis to the circulation.

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Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

defects are poorly understood. We could find no historical evidence of ferrokinetic studies in Gilbert's disease, and the opportunity presented itself to observe three young adults with this disease entity. Two methods of study were used, (1) red cell survival studies, and (2) ferrokinetic studies. The former measures hemolysis, and the latter evaluates the amount of erythropoiesis and delivery of viable red cells to the circulation.

Methods

Ferrokinetic studies included the plasma iron clearance rate, the plasma iron transport rate, and the iron incorporation rate into the circulating erythrocytes.⁷

Plasma Clearance Rate: The time is measured required for radio-activity from Fe^{59} in the plasma to decrease to $1/2$ of the initial injected value. The normal for adults is 80 to 120 minutes. The test is performed as follows: 1.0 μg per 10 kg body weight of ferrous (Fe^{59}) citrate is injected intravenously, and venous samples are collected at 10, 40, 70, 100, 130, and 160 minutes following injection. The radio-activity of the serum is determined for each specimen and plotted on semi-logarithmic paper.

For the most part, this yields a straight line and the slope of the curve is the significant feature. This is easily determined by dividing 0.693 (the natural logarithm of 2.0) by the plasma half-clearance time. This indicates the fraction or relative amount of total iron removed from the plasma each hour. The fractional amount of iron leaving the plasma is inversely related to the total iron in the plasma. For example, a large fraction leaving the plasma indicates a low concentration of iron remaining. Conversely, a small fraction leaving the plasma indicates a high concentration of iron remaining. Since a small fraction is obtained by a long half-clearance time, it can be said that a long half-clearance time indicates a high concentration of total plasma iron, and a short half-clearance time indicates a low concentration of total plasma iron.⁸

Two additional tests are necessary; the serum iron (normal values 60 to 150 μg per cent), and the total iron binding capacity (normal values 250 to 420 μg per cent). The total blood volume is estimated on the basis of 75 cc per kg body weight, and the plasma volume determined on the basis of the Hct.

These values are then incorporated into the following formula in order to determine the *plasma iron transport rate*, or the amount of iron entering and leaving the plasma per day:

$$\frac{(24 \text{ hr}) \times (0.693) \times (\mu\text{g Fe}/100 \text{ ml plasma})}{(\text{ml plasma vol})} \\ 100 \times (\text{half-clearance time hr})$$

The answer is expressed as mg Fe in 24 hours and is estimated by Lajtha⁹ to be accurate with 15 per cent. The normal values range between 20 and 42 mg per 24 hours.

The plasma iron transport rate has been found to be closely correlated with the degree of total erythropoietic activity occurring within the body, and is an index for evaluating this activity.

The radioiron incorporation into the red cell hemoglobin is determined by the radio-activity present in the patient's circulating red cells. In normal individuals, 80 to 90 per cent of the Fe^{59} will appear in the circulation by the fifth day. In the absence of any appreciable random destruction of the red cells and consequent return of iron to the plasma, the transfer of iron from the plasma to the red cells is considered to be unidirectional, mostly by way of the bone marrow. This expression of the percentage of radioiron incorporated into red cell hemoglobin reflects the amount of viable red cells being delivered to the circulation from the erythropoietic pool or the effectiveness of the total erythropoietic activity occurring in the body.

Red Cell Survival Studies: Following the completion of the radioiron incorporation rate study, the survival of the red cells was determined by the sodium chromate (Cr^{51}) method. The $\text{TV}_{1/2}$ for red cell survival, by this technique, is normally 26 to 30 days. The two isotopes were separated by use of the SC-81 Versomatic 2 Spectrometer (Tracerlab).

Case Reports

Case 1 (KUMC 63-18359): A 19-year-old, male, Caucasian college student was admitted to the University of Kansas Medical Center for evaluation of fatigue. He had been observed at another hospital 11 months previously for the same complaint and left upper quadrant pain. He was jaundiced at that time. His symptoms subsided. One month before entering KUMC, he again noted lack of energy, jaundice, and dark urine. His symptoms subsided spontaneously. He was referred to KUMC for further evaluation.

Past medical history was not contributory. Family history revealed no evidence of familial jaundice or anemia. System review was negative with the exception of a 13 pound weight loss during the year prior to admission.

Physical examination revealed a well-developed, Caucasian male. He was afebrile, with a BP of 110/90, pulse 60 and regular. His weight was 137 pounds. The skin and sclerae were slightly icteric. There was no lymphadenopathy. The abdomen was scaphoid, the spleen tip was palpable. The liver was not palpable.

Laboratory Studies: Hgb 16.5 gm per cent, Hct 47.5 per cent. WBC 7,230 per cu mm with normal

differential. Platelet count 112,000 per cu mm. Reticulocyte count 0.4 per cent. VDRL negative. Bleeding and coagulation times normal. Standard liver and kidney function studies within limits of normal with exception of an elevated indirect bilirubin. Total bilirubin 5.0 mg per cent with 0.2 mg per cent direct reacting bilirubinemia. Total bilirubin 5.0 mg per cent with 0.2 mg per cent direct reacting bilirubin. Serum electrolytes and thyroid function studies normal. The EKG revealed a sinus bradycardia. X-ray of chest and gall bladder visualization were normal.

Radioactive liver studies with I^{131} tagged rose bengal and Au^{198} revealed an enlarged spleen with slight reduction in liver function. A liver biopsy revealed no diagnostic abnormalities.

Ferokinetic studies revealed a plasma iron clearance rate of 82 minutes ($T_{1/2}$), a serum iron concentration of $143 \mu\text{g}$ per cent and a total iron binding capacity of $245 \mu\text{g}$ per cent (with 58 per cent saturation). The plasma iron turnover rate was calculated to be 47 mg per 24 hours. The radioiron incorporation rate was 69.5 per cent in five days. The Cr^{51} red cell survival study was 22.5 ($T_{1/2}$) days.

Interpretation: (Refer to Figures 1, 2, and 3.) The plasma clearance rate was within the limits of normal.

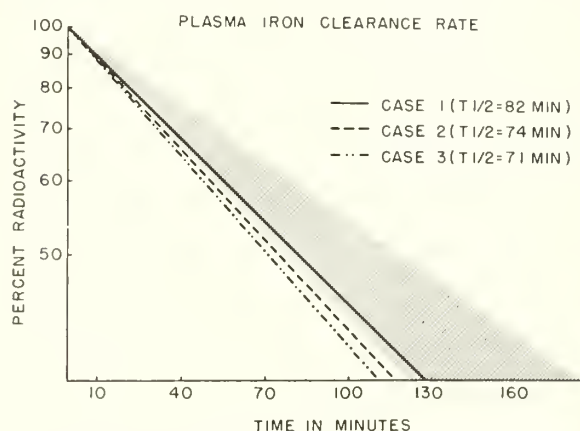


Figure 1. The normal rate of iron clearance is illustrated by the cross-hatching. Two of the patients had a slightly increased clearance rate.

The plasma iron transport rate was elevated. The incorporation rate of radioiron into circulating red cells was less than normal. The red cell survival time was slightly decreased. These findings indicated an increased rate of total erythropoietic activity with evidence of inadequate delivery of red cells to the circulation or ineffectiveness in erythropoiesis. The red cells delivered to the circulation had a moderately shortened survival time. It was concluded that there was a mild, compensated, intramedullary and extramedullary hemolytic state.

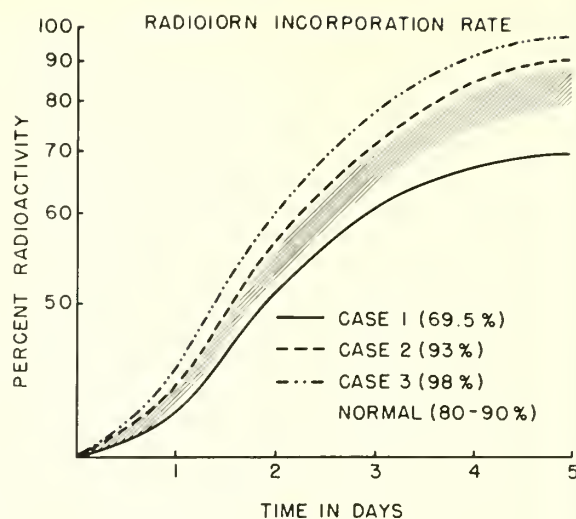


Figure 2. The normal rate of radioiron incorporation is shown by the cross-hatching. The rate is decreased in case one. In cases 2 and 3 the incorporation is more rapid than normal.

Case 2 (KUMC 63-19309): A 19-year-old, female, Caucasian college student was admitted to KUMC for evaluation of anemia and jaundice. She was noticed to be mildly anemic during a routine college physical examination. Iron therapy was given. She had mild scleral icterus on several occasions during the year prior to admission. There was no unusual menstrual history. A 21-year-old brother had scleral icterus and was anemic, for which he also received iron therapy.

Physical examination revealed a well-developed, well-nourished, white female. BP 110/70, pulse 84 and regular. She was afebrile. The skin did not appear abnormal, the sclerae were slightly icteric. The remainder of the physical examination was essentially normal.

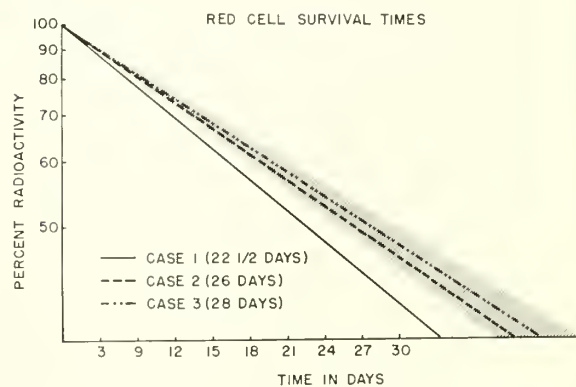


Figure 3. The normal red cell survival is shown by the cross-hatched area. Case 1 has a moderately shortened half-life, and the other two fall within the normal range.

Laboratory studies: Hgb 11.0 gm, Hct 39 per cent, RBC 5.51 mil per cu mm, WBC 7,300 per cu mm, platelet count 215,000 per cu mm, and reticulocyte count 2.0 per cent. Total bilirubin was 3.1 mg per cent with 0.2 mg per cent direct reacting bilirubin. Other liver function studies and renal function studies were within the limits of normal. An LE cell preparation was negative. The glucose 6-phosphate dehydrogenase activity of the erythrocytes was normal. X-ray visualization of the gall bladder was normal. A bone marrow biopsy study showed erythroid hyperplasia with stainable iron present. A peripheral blood examination revealed marked anisocytosis of the erythrocytes with predominant microcytosis, moderate poikilocytosis with some fragmentation of the red cells, rare tear drop cell, and a few target cells. There was moderate to marked hyperchromia of the red cells and an occasional giant platelet was observed.

Ferrokinetic studies utilizing Fe^{59} revealed a plasma iron clearance rate of 7.4 minutes ($\text{T}_{1/2}$). The serum iron concentration was 98 μg per cent, and the total iron binding capacity was 320 μg per cent (31 per cent saturation). The plasma iron turnover rate was 31.6 mg. per 24 hours. The rate of incorporation of radioiron into the circulating red cells was 93 per cent in five days. The Cr^{51} red cell survival study revealed a $\text{T}_{1/2}$ of 26 days.

Interpretation: (Refer to *Figures 1, 2, and 3.*) The plasma clearance rate was normal. The plasma iron transport rate was normal. The incorporation of radioiron into circulating red cells is moderately increased. The red cell survival time was normal. These findings indicated normal erythropoietic activity with a moderate increase in delivery of red cells from the areas of erythropoiesis to the circulation.

Case 3 (KUMC 64-3824): A 20-year-old, Caucasian male was admitted to KUMC for evaluation of a heart murmur known to be present for two years. No symptoms consistent with cardiopathy were present. His past medical history revealed no significant adult illnesses other than a clinical diagnosis of peptic ulcer at age 18. System review and family history were not contributory.

Physical examination revealed a blood pressure of 95/55, pulse rate of 80 per minute. He was afebrile. The patient was a well-developed, well-nourished white male. There was no jaundice. Cardiac examination revealed a grade II systolic murmur at the left sternal border.

Laboratory studies: Hgb 15.6 gm per cent, Hct 47.5 per cent, WBC 6,840 per cu mm, platelet count 266,000 per cu mm, and reticulocyte count 0.6 per cent. Total serum bilirubin was 2.0 mg per cent on admission. Repeat determinations revealed a gradual decline in the total bilirubin of 1.7, 0.6, 0.6, and

0.5 mg per cent. Direct bilirubin was consistently 0.2 mg per cent. Twenty-four hour urobilinogen, four Erlich units per total volume of 540 ml. Fecal urobilinogen (72 hours) 207 units or 373 mg per 24 hours. X-ray visualization of the gall bladder was normal.

Ferrokinetic studies: Plasma iron clearance rate of 71 minutes. Serum iron concentration 102 μg per cent. Total iron binding capacity 206 μg per cent (saturation 40 per cent). Plasma iron turnover rate 37.2 mg per 24 hours. Rate of radioiron incorporation 98 per cent in five days. The Cr^{51} red cell survival study revealed a $\text{T}_{1/2}$ of 28 days.

Interpretation: (Refer to *Figures 1, 2, and 3.*) The plasma iron clearance rate was normal. The rate of radioiron incorporation was increased. The red cell survival time was normal. These findings indicated a normal degree of erythropoietic activity, with evidence of a moderate increase in the delivery of red cells from the erythropoietic tissue to the circulation.

Discussion

Our observations on these three young adults with a clinical diagnosis of Gilbert's disease have been focused on ferrokinetic studies. To our knowledge studies of this type have not been reported, hence we cannot compare our results with others. Observations on only three such patients will not allow us to reach final conclusions. Our findings were not the same clinically, and the ferrokinetics were different. The first patient probably has mild, compensated, intramedullary, and extramedullary hemolysis. The other two have normal erythropoietic activity with a moderated increase in the delivery of red cells into the circulation.

The exact site of hemoglobin catabolism is poorly understood. Bilirubin is delivered from tissues other than red cells. Only 70 per cent of the excreted bile pigment originates from destruction of mature red cells reaching the end of their physiologic life-span.⁵

The reticuloendothelial cell binds the bilirubin from hemoglobin break-down largely to albumin for transportation to the liver cells. The unconjugated bilirubin is measured as indirect bilirubin. It is released at the liver cell, penetrates the cell wall, and is conjugated within the microsomal system with uridine diphosphate glucose by glucuronyl transferase. The conjugated form is excreted in the bile.¹⁰

What happens to the ferric iron when it is released from hemoglobin in the reticuloendothelial cell? It is incorporated into the beta-1 protein fraction (transferrin) for transport, in part, to the sites of erythropoiesis. In the bone marrow the iron is released from transferrin, enters the immature red cells, and becomes a part of the protoporphyrin molecule in hemoglobin synthesis.

In constitutional hepatic dysfunction, the average bilirubin elevation is between 1.62 and 2.72 mg per cent. Virtually all is in the unconjugated form. Conventional liver function studies are normal except for occasional increases in BSP retention. Histologic examination of the liver reveals no specific abnormalities. Mild compensated hemolysis has been reported in some patients, this being based on moderately shortened red cell survival studies. The moderate hemolysis cannot account for the slightly increased bilirubin, as a normal liver can remove bilirubin from the blood in excess of the pigment load due to the physiologic destruction of red cells.

This investigation was supported by Public Health Service Training Grant 2A-5359, from the National Institute of Arthritis and Metabolic Diseases, Public Health Service Research Grant CA 03337, and Kansas University Endowment Association, Hematology Fund 54-R-256.

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The May-Hegglin Anomaly

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The May-Hegglin anomaly consists of giant platelets and inclusions (Döhle bodies) containing ribonucleic acid in the cytoplasm of granulocytes and monocytes. In 1909, May, in Germany, reported a woman who had giant platelets and one to four basophilic inclusion bodies in each neutrophil and in some eosinophils and basophils. In 1945, Hegglin,

in Switzerland, reported a man and his two sons all of whom had chronic thrombocytopenic purpura associated with the anomaly. Since 1960, another 20 cases have been reported, and autosomal dominant inheritance has been established. Of the 24 previously reported patients only ten had platelet counts, and eight of these had thrombocytopenia.

We are reporting 14 cases of the May-Hegglin anomaly from three kinships. In one kinship ten cases, including a newborn, were found in three generations. Platelet counts were done on the blood of 13 of our patients. All 13 had one or more platelet counts below 60,000 per cubic millimeter. In each of three patients whose bone marrow we examined, we found giant platelets within megakaryocytes. Hemorrhagic phenomena were mild, and treatment was usually not required.

Although only 24 cases of the May-Hegglin anomaly have been found in a review of the literature, the appearance of three families with 14 cases at the University of Kansas Medical Center within the past two years suggests that the disorder is not as rare as previously believed.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

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Hypoparathyroidism . . .

. . . *With Recurrent Hyperthyroidism: A Case Report*

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HYPOPARATHYROIDISM usually is a result of accidental removal or damage to the parathyroid glands at the time of thyroid operations. Tetany developing after thyroid surgery occurs in the range of one-half to two per cent of the cases. Chronic hypoparathyroidism has been reported to run as high as 9 to 15 per cent of these cases. In the absence of parathyroid hormone, there occurs a diminution of distal renal tubular secretion of phosphate. This in turn results in hypophosphaturia, phosphate retention and elevation of blood phosphorous levels, with a subsequent decrease in serum calcium and hypocalciuria. Also, when parathormone is lacking there is a decrease in calcium absorption from the intestinal tract thereby enhancing the hypocalcemia and eventually leading to the clinical picture of tetany.

The combination of hypoparathyroidism and recurrent hyperthyroidism apparently is quite unusual. In 1959, Rothenberg and Redleaf reported a case, in which the recurrence of hyperthyroidism resulted in the disappearance of the signs of tetany. As these authors pointed out, hyperthyroidism results in mobilization of bone calcium. In patients who lack parathyroid glands, the serum calcium rises as thyrotoxicosis develops. In patients with intact parathyroids a compensatory decrease in parathyroid function usually maintains normal serum calcium levels when hyperthyroidism develops. These findings were not observed by Skanse. In his cases, there was no change in blood calcium levels during the periods of hyperthyroidism or hypothyroidism. Therefore, different responses in serum calcium concentrations have been noted in hypoparathyroid patients who have become thyrotoxic. The reason for these different responses is still obscure.

Case History

M. B., a 53-year-old white female was seen in the office on July 25, 1963, because she had a brief fainting spell while on a recent vacation trip. She had noted dizziness and light-headedness with position change. For several weeks she had a "sticking" sen-

sation in her throat at times when she swallowed. She had been nervous for several years; however, this had become more so during the past two years. On further questioning it was learned that she had frequent stools; rather dry, rough skin, fragile fingernails, and at times would notice stiffness of her fingers and a "drawing" sensation in her legs. Insomnia was present.

A patient simultaneously developed hypoparathyroidism and recurrent hyperthyroidism 25 years after thyroidectomy.

The author presents details of management and a brief discussion of the literature on the subject.

In July, 1938 (25 years ago), a bilateral subtotal thyroidectomy was performed because of a toxic, adenomatous goiter. Hospital records at that time revealed complaints of nervousness, weakness, weight loss, palpitation, and physical findings of a goiter, tachycardia, starey eyes, and excessive diaphoresis. Two days postoperative, she developed numbness of the hands and twitching of the face. Because of this she was treated with calcium.

In 1945 (seven years after thyroidectomy), she had bilateral cataracts. These were extracted in 1951 and 1961.

There had been no other serious illnesses or surgery.

Physical examination revealed a well developed, rather thin, white female. She had a gross tremor of both hands. There was a healed thyroidectomy scar and no residual thyroid tissue was palpable. Her eyes showed the residuals of the cataract surgery and the fundi appeared normal. The heart tones were good and there was a regular tachycardia at 120. The blood pressure was 130/75. Her skin was dark and rather rough. The fingernails were thin and showed ridging. The palms were sweaty and reflexes were hyperactive. Chvostek's and Trousseau's signs were positive.

Blood calcium values on two occasions were re-

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ported 3.7 and 3.1 meq./l. and phosphorous was 6.8 and 7.0 mg. per cent. Sulkowitch tests were negative for calcium and a quantitative urinary calcium was 2.3 meq./l. (normal is 2.5 to 20 meq. per 24 hours). Urinary phosphorous was .4 Gm./l. (normal is .3-1 to 1.0 gm. per 24 hours). The protein bound iodine was 12.3 micrograms per cent and the T3 was 16.2 per cent (normal is 10.3 to 14.3 per cent). Twenty-four hour I-131 uptake was 44.1 per cent and tracer studies indicated a hyperactive focus in the area of the right lower pole of the thyroid. The following laboratory values were normal: Complete blood count, urinalysis, NPN, BUN, cholesterol, sugar, alkaline phosphatase, VDRL, bilirubin, 17 ketogenic steroids and protein electrophoresis. The chest x-ray, which showed scoliosis of the thoracic spine, was otherwise normal. Skull x-rays were normal and did not reveal any intracranial calcifications. X-rays of the right humerus, femur and tibia were normal.

Electrocardiogram showed a prolongation of the QT interval to .40 sec. (upper limits of normal at this rate would be .35 sec.), and is compatible with hypocalcemia.

The patient was started on a low phosphate diet and aluminum hydroxide gel. She received vitamin D, 200,000 units daily and one gram of elemental calcium a day. After six weeks, there was considerable subjective improvement, Chvostek's sign had become negative and serum calcium had increased to 4.3 meq./l. On September 12, 1963, she received a therapeutic dose of 6.09 millicuries of I-131 for her thyrotoxicosis. Four months later the patient had gained 12 pounds, complained of tiredness, and stated she felt too cold. Chvostek's sign was still negative and the calcium was 4.6 meq./l. The protein bound iodine was 3.0 micrograms per cent, and the T-3 was 10 per cent. Thyroid extract was added to the patient's medical regime.

When last seen, the patient stated she was feeling well; however, she had gained four pounds and still had cold intolerance. Chvostek's sign was absent. The Achilles reflexes showed a slow relaxation phase. On the basis of these findings, the thyroid was increased to two grains daily. Her other medications were continued.

Comment

This patient developed hypoparathyroidism following surgery for a toxic goiter. This went unnoticed for several years; but when diagnosed, hyperthyroidism was also present. Although the degree of hyperthyroidism apparently was not great, the symptoms and signs of tetany were obvious. Also, when she became hypothyroid after I-131 therapy, the serum calcium did not change.

The findings in this case tend to agree with those of Skanse, whose patients did not experience any significant change in tetany when thyrotoxicosis recurred. He suggests that parathyroid remnants are necessary for the effect of thyroid hormone to produce a rise in serum calcium as seen in cases like those of Rothenberg and Redleaf. Another possibility to be considered in this case is that the degree of hyperthyroidism was not great enough to reverse the hypocalcemia.

Summary

In summary, the combination of hypoparathyroidism with recurrent hyperthyroidism apparently is quite unusual.

Earlier reports in the literature point out two different responses in calcium levels when thyrotoxicosis develops in a hypoparathyroid patient.

In the first group, the recurrence of hyperthyroidism resulted in the disappearance of the signs of tetany. They have hypothesized that, in patients who lack parathyroid glands, the serum calcium rises as thyrotoxicosis develops. In patients with intact parathyroids a compensatory decrease in parathyroid function usually maintains normal serum calcium levels when hyperthyroidism develops.

In the second group, no significant change in calcium levels has been noted when thyrotoxicosis develops in a patient with hypoparathyroidism. At that time it was suggested that the degree of parathyroid insufficiency might determine the various responses to thyroid hormone and that parathyroid remnants may be necessary, for the effect of thyroxine to produce elevation of the serum calcium.

At any rate, the reasons for the different responses observed in the past apparently are still obscure. Perhaps, in this case, the degree of hyperthyroidism was not great enough to reverse the hypocalcemia.

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Syndromes With No Pulse in The Left Arm

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The patient who presents with an absent or weakened pulse in the left arm may have no symptoms or arm pain, arm coldness, arm paresthesia, dizziness with cerebrovascular signs, or symptoms primarily of heart difficulty. We will present the following arbitrary classifications with representative cases for most categories:

- (1) The "subclavian steal" syndrome
 - (a) due to arteriosclerosis
 - (b) due to trauma
- (2) The peripheral axillary block
 - (a) due to trauma
 - (b) due to arteriosclerosis
- (3) The congenital syndromes
 - (a) coarctation of the aorta and subclavian
 - (b) coarctation of the subclavian
 - (c) coarctation of the subclavian and aorta and carotid
- (4) The aortic arch syndromes
- (5) The dissecting aneurysm
- (6) The thoracic outlet syndromes
- (7) Miscellaneous

In the first category severe cerebrovascular symptoms can appear due to siphoning off of blood from the vertebral system to the blocked subclavian beyond the block. Also, severe arm claudication may ensue. In the second category the patient is usually asymptomatic. In the third category, if symptoms appear, they are usually to the aortic block and attention is called only secondarily to the left subclavian block. In the remaining four categories the symptoms of the arm are almost always associated with other symptoms although, on occasion, the left arm symptoms may prevail.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

Myotonia Dystrophica With A-V Dissociation and Stokes-Adams Attacks: Report of a Case With Myocardial Biopsy

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Abnormalities of heart rate or rhythm are often seen in patients with myotonia dystrophica. These sometimes occur many years prior to development of characteristic changes in skeletal muscles.

The etiology of rhythm and conduction abnormalities is obscure. These may occur in the absence of appreciable coronary artery disease and may be due to primary myocardial degeneration.

We had an opportunity to treat a 50-year-old female with myotonia dystrophica and complete A-V dissociation with Stokes-Adams attacks. An implantable electronic pacemaker was used in the management. At the time of the surgery, coronary arteries were inspected and no appreciable atherosclerosis was observed. A biopsy from the tip of the left ventricle was obtained for histological study. The myocardial biopsy showed increased amount of connective tissue and many lymphocytes and macrophages. The muscle fibers had indistinct borders. Special stains did not reveal any amyloid-like substance.

Although a large percentage of patients with myotonia dystrophica show electrocardiographic abnormalities, complete A-V dissociation is rare. Transient atrial flutter, first degree A-V block, bundle branch block or isolated left axis deviation have been observed. Very few of the patients with these abnormalities had postmortem histological studies of the heart.

The nature of myocardial changes and their relation to rhythmic and conduction defects is not well established. It appears that concomitant coronary arteriosclerosis does not play an important role. In the case presented there was an absence of coronary artery disease, although non-specific changes in the myocardium were demonstrated. It seems possible that the myocardium is involved in the same disease process as the skeletal muscles and that these changes are the cause of the arrhythmias and conduction defects which in turn may cause the sudden and unexpected deaths in these patients.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

Diffuse Interstitial Pulmonary Fibrosis

A Visceral Manifestation of a Number of Diseases of Diverse Nature

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DIFFUSE INTERSTITIAL pulmonary fibrosis occurs as a visceral manifestation of a number of diseases of diverse nature. The histopathology and the pathophysiology in most of these diseases are similar, so that it is usually necessary to correlate these findings with the clinical data, laboratory tests, and associated changes in other organs to establish a diagnosis. The reason for this similarity of pulmonary findings lies in the fact that the lungs have a limited means by which they can react to the diverse agents. A single agent may affect the alveolar portions of the lungs in one instance, the interstitial tissues in another and all structures in another. The impact of a particular insult may, for the moment, elicit a specific type of tissue, but there is often an overflow of the response to adjacent tissues. Thus, in longstanding diffuse interstitial fibrosis one finds lesions involving not only the alveoli, but also the blood vessels, bronchi and pleura.

In this discussion of diffuse interstitial pulmonary fibrosis the clinical, roentgenologic and pathologic findings, and etiological considerations will be presented. I shall initially consider the non-specific group as a prototype for this disorder followed by a brief mention of several of the specific diseases and a brief discussion of therapy.

In 1935 Hamman and Rich described four patients they had observed in the early 1930's with an unusual acute respiratory disorder which at autopsy showed a type of pneumonitis with fibrosis and thickening of the alveolar septae. In 1944 they published a second report of these cases and added another case. There have been many papers describing similar patients in the past 15 years. The nomenclature used has included acute and chronic diffuse interstitial pulmonary fibrosis, chronic interstitial pneumonitis, Hamman-Rich syndrome, fibroid pneumonia, and others. Initially, Hamman and Rich considered this to be an acute disease process but subsequent reports have shown that there is a wide spectrum from the acute to the chronic form. Patients have lived from only a few weeks to several years after onset of symptoms.

A survey of the current literature suggests that diffuse interstitial pulmonary fibrosis occurs as the visceral manifestation of a number of illnesses. This histopathologic picture and its physiologic consequences have been associated with several specific diseases, but there is a large group of patients in whom the specific etiology has not been determined. Continued research will give us further insight into the etiology in each problem and point the direction for successful therapy in each patient.

Most patients have been in the fourth and fifth decades of life although the ages have ranged from seven months to 74 years. It is seen slightly more often in males.

Symptoms and Physical Abnormalities

The most common and outstanding symptom is progressive dyspnea. It is often significant that the dyspnea seems out of proportion to the physical and x-ray findings. Cough is a common symptom which may be productive of a moderate amount of non-specific mucoid sputum, and rarely may be profuse and mucopurulent. Hemoptysis is quite rare. Many complain of a sense of constriction or tightness of the chest. There is loss of weight and weakness. Chills, fever and sweats usually indicate a superimposed pneumonitis which often occurs.

The physical examination may not reflect the diffuseness of the disease. It may be within normal limits. Auscultation usually reveals fine crepitant rales over the lung bases. Some authors believe the rales are so characteristic that they are diagnostic of interstitial fibrosis, however, they may be heard in other diffuse fibrosing diseases associated with bronchiolitis and bronchiolectasis. Cyanosis occurs in the more advanced disease. Clubbing of the digits has been observed in about one third of patients. Cardiac findings of cor pulmonale and right heart failure are found in the terminal stages.

* Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

The peripheral blood in some shows a leukocytosis and eosinophilia. Herbert et al found a hyperglobulinemia in 67 per cent of their patients and in three there was a diffuse band in the gamma-globulin region on the paper electrophoretic pattern.

The chest x-rays (*Figure 1*) are usually out of proportion to the relative paucity of physical findings. The x-ray picture may vary from coarse mottling to a fine stippling giving a rather cloudy appearance predominately over the bases. Scadding describes characteristic findings on bronchography. The bronchi seem to maintain an undiminished caliber much further toward the periphery than usual. This seems to be due to condensation of the terminal parts of the bronchial tree.

The pulmonary function findings in diffuse interstitial pulmonary fibrosis are variable. Characteristically, there is a decrease in the vital and total lung capacities but the residual volume usually remains normal. The patient hyperventilates largely by an increase in the frequency of breathing. This often leads to a diminished P_{CO_2} . The maximum breathing capacity, expiratory and inspiratory flow rates usually remain normal even though the vital and total lung capacities may be diminished. There may be uneven distribution of inspired air. The diffusing capacity of O_2 and CO are characteristically diminished. Arterial oxygen saturation may be normal at rest because the pulmonary reserve is usually great and also alveolar ventilation is increased. Oxygen saturation and tension decreases with exercise. There is, however, no problem with outward diffusion of CO_2 . Many now believe the diffusion block is actually an uneven distribution of inspired gas and pulmonary capillary blood flow. Thus, rather than an actual barrier to diffusion, there are areas of the lung which

may be well ventilated but poorly perfused with blood and vice versa.

Pathological Changes

Grossly (*Figure 2*) the lungs in the earlier stages may be voluminous and hold their shape firmly. In the later stages the lungs are small and shrunken. The pleural surfaces are usually smooth and glistening. In long standing disease the lungs are often "liver-



Figure 2

like" in consistency and appear "hobnailed" or "cobblestoned." On section they may be honeycombed with diffuse emphysema and show bronchiolectasis and bronchiectasis. There may be evidence of pulmonary hypertension with cor pulmonale.

There has been considerable debate as to the histogenesis of chronic interstitial fibrosis. Read states the earliest lesion consists of exudation of small to moderate amounts of serofibrinous fluid into the alveolar septa and spaces. Gross disagrees rather strongly as his studies of human and experimental animals show no indication that the fibrosis was preceded by edema of the alveolar walls with exudation of fibrin which later became organized. He believes instead that the interstitial alveolar inflammation was chronic at its inception and that any acute changes were superimposed upon the chronic changes. Early changes may be patchy. As the lesion progresses, young connective tissue fibers become thicker and finally assume the staining characteristics of mature collagen. Concomitantly, the cellular components and capillaries diminish and finally become inconspicuous.

Gross describes two types of inflammatory reaction in the alveolar walls, one or both of which may be seen in interstitial pneumonitis progressing to fibrosis regardless of the etiology. In the first type alveolar fibrosis is caused by a deposition of collagen between capillaries and the alveolar covering epithelium. This is an expansive thickening. The second type is initiated by an alveolar cell proliferation upon the

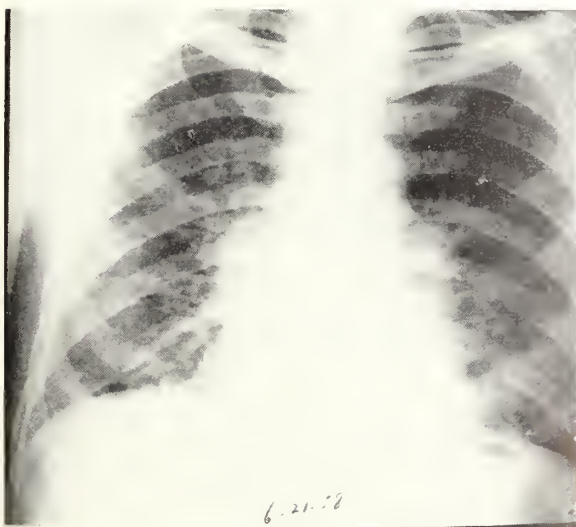


Figure 1

alveolar surface. These proliferating cells form an integral part of the alveolar wall and thus the thickening is accretive. The first type, expansive fibrosis, causes only moderate thickening of the septal walls without significantly compromising the air spaces. Accretive alveolar involvement may seriously compromise the air spaces and obliterate them. These alveolar lining cells produce an associated supporting reticulin stroma which is connected with the axial alveolar reticulin. The stroma may retain its reticular character or in certain patients may collagenize. With collagenization there is a reduction in the cellularity of the lung tissue. As long as the stroma remains of a reticulin character, Gross believes the lesion is reversible because the reticulin fibers are labile and may undergo fragmentation and lysis. As the reticulin stroma is destroyed, the proliferating alveolar cells lose their structural support, desquamate and undergo degenerative changes. This may be of practical importance in predicting the results of anti-inflammatory therapy from a lung biopsy.

In the later stages there is bronchiectasis, mucous retention, cyst formation, variable infiltration by plasma cells and lymphocytes often with formation of lymphoid nodules, hypertrophy, sclerosis and stenosis of arteries and arterioles, obliteration and dilatation of veins and lymphatics, and edema and sclerosis of the pleura and interlobular septa. The end stage is a badly damaged, almost totally reconstructed lung with fibromuscular sclerosis with scarring, focal emphysema, and loss of both respiratory surface and vascular bed (*Figures 3 and 4*).

Etiology

While considering the etiology of a given patient's diffuse interstitial pulmonary fibrosis one should consider the several specific diseases with which it is associated. There has, however, been considerable speculation as to the etiology of the non-specific group which cannot be categorized with one of the known specific diseases. Hamman and Rich suspected the disease was caused by a virus or chemical irritant. Pulmonary lesions resemble those found in the lungs of animals in experimental influenza and primary atypical pneumonia. McKee has isolated the antigen of the Swenson's strain of influenza virus from the lungs of four patients with this disease. Their serum also contained antibodies to this antigen. Repeated attempts to culture viruses from these patients have been unsuccessful. Some have suggested that the disease is due to failure of resolution and subsequent organization of an acute interstitial pneumonitis. Pokorney and Hellwig suggested that there might be one or more bouts of interstitial pneumonitis which organize as a result of a disturbance in fibrinolysis.

Some of the patients have a background of hypersensitivity and some show eosinophilia suggesting a

hypersensitivity disease. Because of the similarity of the group with collagen diseases some have suggested that all diffuse interstitial fibrosis is a collagen disease. Against this theory is the fact that the idiopathic interstitial fibrosis is usually limited to pulmonary involvement while the collagen diseases usually are systemic. Rheumatic pneumonia has also been suggested as an etiologic agent. Moolten described newly formed collagen fibers in areas of subsiding inflammation in areas of rheumatic pneumonitis.

An auto-immune mechanism has been proposed by some authors. Of particular interest in this area is the experimental work by Read. He reported a series of changes following the intratracheal injection of rabbit anti-rat-lung serum into rats. The final picture was one of dense fibrosis of the alveolar walls which were often thicker, less cellular, and more condensed than previously.

There are a number of occupational-related illnesses which may be accompanied by pulmonary fibrosis. The best known and most prevalent are the pneumoconiosis resulting from the inhalation of mineral dusts. Silicosis, asbestosis, and berylliosis are the most important of these. These usually produce characteristic nodules histologically.

In recent years a group of occupational illnesses which cause varying degrees of fibrosis and granulomatous reaction has been described. This group includes farmer's lung, pigeon breeder's lung, maple bark disease, bagassosis and byssinosis. The history of exposure to the various specific organic materials are characteristic of this group. Silo filler's disease is a chemical pneumonitis due to nitrogen dioxide which may cause fibrosis.

In recent years there has been considerable attention paid to the pulmonary manifestations of the various collagen diseases. In general, the clinical, roentgenologic and histopathologic features are similar to patients with the non-specific pulmonary fibrosis. Some may demonstrate vascular lesions not usually seen in the non-specific type. Of this group scleroderma is especially associated with pulmonary fibrosis. Pulmonary fibrosis is also among the several pulmonary manifestations of rheumatoid disease. This has also been observed in systemic lupus erythematosus, dermatomyositis and polyarteritis nodosa.

Pulmonary fibrosis and a diffuse non-caseating granulomatous reaction were found in 15 per cent of a group of patients with sarcoidosis by Smellie and Hoyle.

Differential Diagnosis

There are a number of disorders of the lungs which should be mentioned in this discussion because they can cause similar clinical, roentgenologic and physiologic findings although the histopathology is

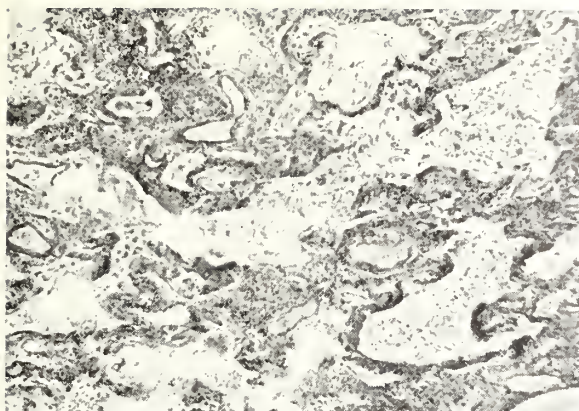


Figure 3

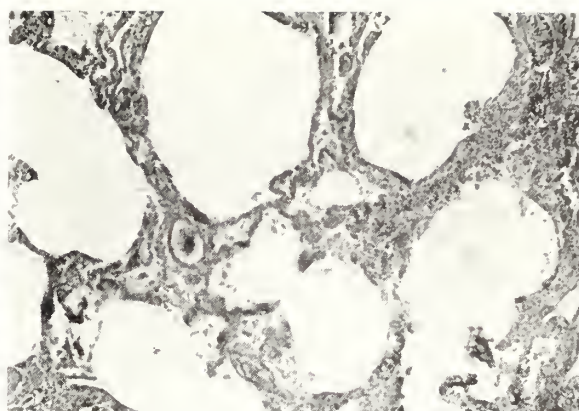


Figure 4

usually quite distinct. This group includes alveolar proteinosis, pulmonary eosinophilic granuloma, primary pulmonary hemosiderosis, lymphangitic carcinomatosis of the lung, leukemic infiltration of the lungs, alveolar cell carcinoma, radiation fibrosis, and desquamative histiocytic interstitial pneumonia. Infectious diseases, such as histoplasmosis and tuberculosis, may cause a similar picture with or without actual interstitial fibrosis.

Treatment

The treatment of the patient with diffuse interstitial pulmonary fibrosis must be individualized. When the pulmonary fibrosis is associated with a specific disease, the patient's underlying disease should be treated. I shall only briefly comment on therapy for the non-specific group. Patients should avoid irritating inhalants and prompt therapy of superimposed infections is essential. Expectorants, as the iodides, are beneficial in helping to keep the tracheobronchial tree as clean as possible. Steroids are widely used. Although many find subjective improvement from steroid therapy, there is little objective evidence that pulmonary function and arterial oxygen saturation are significantly improved. I believe that steroids should usually be withheld from the patients with the chronic form until they show evidence of arterial hypoxemia at rest. Steroids may be helpful in the acute, rapidly progressive form of the disease but often they fail to avert the fatal outcome. Oxygen therapy usually increases the arterial oxygen saturation to normal. It can be life saving for the patient severely ill with a superimposed pulmonary infection or in congestive heart failure.

In conclusion, my survey of the current literature suggests that diffuse interstitial pulmonary fibrosis occurs as the visceral manifestation of a number of diverse illnesses. We have associated this histopathologic picture and its physiologic consequences with several specific diseases, but there is a large group of patients in whom the specific etiology has

not been determined. Although there are minor differences, the similarity of the pulmonary findings is due to the fact that the lungs have a limited means by which they can react to various harmful agents. Continued research will give us further insight into the etiology in each problem and point the direction for successful therapy in each patient.

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Orthostatic Hypotension Syndrome

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Orthostatic hypotension is often a part of a disease syndrome which includes dysfunction of other autonomic pathways. Impotence, nocturnal polyuria and anhydrosis are the most common accompanying features but fixed pulse rate, urinary frequency, muscular tremors, muscular rigidity and incontinence oc-

cur frequently. The etiology of the syndrome is unknown but is believed to be a primary neurologic disease occurring with tabes dorsalis, diabetes mellitus and syringomyelia. The basic defect is a lack of reflex peripheral vasoconstriction but the site in the reflex arc where the defect occurs is not known. Only a small number of patients receive significant benefit from peripheral vasoconstrictor agents.

We recently studied a 45-year-old married male negro truck driver who entered the hospital in August because of recurrent syncopal episodes. He had a past history of hypertension and frequent urinary tract infections and had experienced impotence for six years. He was a well developed male, appearing younger than his stated age. Perspiration was noted only on his face. His blood pressure supine was 175/110, sitting was 90/60, and was unobtainable when standing. The heart rate did not change with alterations in blood pressure.

In an attempt to localize the site of the defect, a number of tests of autonomic nerve function were performed and will be presented in detail.

From our studies and those of other investigators it appears that the lesion is probably located in the afferent limb of the reflex arc or at the synapse between the afferent and efferent limbs of the reflex arc. The patient did not respond to vasoconstrictor medications or to 9-alpha-fluoro-hydrocortisone, but has an excellent response from a Jobst pressurized leotard.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

Idiopathic Rhabdomyolysis With Renal Tubular Necrosis: A Report of Two Cases

Marjorie Gerbrandt, M.D. (by invitation), Harold Grady, M.D. (by invitation) and Max S. Allen, M.D. (F.A.C.P.), Department of Medicine, University of Kansas Medical Center, Kansas City, Kansas.

Two cases of idiopathic rhabdomyolysis have recently been seen at the Kansas University Medical Center. The diagnosis in one was made clinically, and in the other post-mortem by autopsy findings.

Case One is a 29-year-old, white housewife. Case Two was a 52-year-old, white, male laborer. Their courses were similar in the following: the presence of an upper respiratory infection prior to onset of generalized muscle soreness, swelling and weakness, the absence of preceding strenuous exercise, and the de-

velopment of acute renal failure. Similar laboratory data was also seen.

The differences between the two cases were: The urine in Case Two was normal in color and was negative for myoglobin, while Case One was admitted with smoky, brown urine which was spectroscopically positive for myoglobin; microscopic examination of a muscle biopsy in Case One was normal, whereas in Case Two extensive necrosis throughout the striated skeletal musculature was noted at autopsy.

Both were treated with peritoneal dialysis. Case Two was dialysed for three days but died of an intercurrent staphylococcal pneumonia. Case One was dialysed for 18 days with complete recovery.

Although idiopathic rhabdomyolysis is an uncommon disease, its early diagnosis is important because of the potentially fatal renal complication and its effective treatment by dialysis.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

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Care in Therapy

New Cautions in the Use of Digitalis

CLARENCE W. ERICKSON, M.D., *Pittsburg**

THE INDICATIONS for digitalis are distinctive: (a) low output congestive heart failure, and (b) the control or prevention of rapid ectopic rhythms. The dosage is fairly easy to regulate if digitalis is the only drug given the patient. The patient must be made aware of the earliest manifestations of overdosage for himself with the particular form of digitalis being used. This is likely to be the only way he may learn his optimum maintenance dose. It makes little difference which digitalis product the physician uses. Digitalis leaf remains popular with many physicians who feel that the presenting symptoms of toxicity are more reliably anorexia and nausea. The majority of physicians at present use the purified glycosides, particularly digitoxin or digoxin.

Symptoms of Toxicity

The presenting toxic symptoms of the purified glycosides are usually quite subtle. The patient is apt to ascribe them to his disease rather than the medication. It is here that we have to use a method foreign to our usual approach to a patient's problems. We have to ask leading questions. Fatigue is the most commonly encountered early symptom. This fatigue is unique. It is not fatigability. It is not the morning fatigue encountered in the neurotic. Digitalis fatigue does not lessen toward evening but remains steady only to increase with even slight increments of the purified glycoside. Lightheadedness, giddiness, difficulty in balancing, a feeling of unreality, or actual depression are early symptoms that must be sought to be found. Anorexia is quite common as an early symptom. Any type of colored vision may be the presenting symptom, particularly in the elderly. A headache, abdominal pain, a toothache, tinnitus in one ear or a pain in the leg may be the earliest symptom. Patients who have had multiple small strokes may have personality changes or frank psychosis as their first symptom.

The earliest auscultatory findings of slight digitalis overdosage in patients with a basic sinus rhythm are apt to be a sinus arrhythmia not related to respiration, a sinus bradycardia, a lessening of intensity of the mitral first sound suggesting a first degree

heart block, or new premature ventricular beats. These are not necessarily critical to the patient, but warn the physician to stop digitalis a few days and set a smaller maintenance dose.

Some patients will complain of brief episodes of palpitation or transient episodes of giddiness while on digitalis. This may be, but it cannot be assumed to be, psychogenic. It is more apt to be related to digitalis overdosage or to sudden depression of the

With the more widespread use of purified digitalis glycosides it is important to teach the patient the more subtle onset of toxic symptoms and how to control his maintenance dose. He should know how to protect himself against hypokalemia from diuretics or other drugs used in managing his over-all status.

serum potassium. This complaint should be investigated at once. An electrocardiogram may be informative or it may show a normal sinus rhythm with the shortened cuplike ST segment depressions seen in a satisfactorily digitalized patient. There are two procedures that may clear the problem. The carotid sinus reflex may become overly sensitive in the elderly digitalized patient. Be sure you have good pulsations in both carotid arteries. Press lightly on one sinus, never over five seconds, and then press lightly on the other sinus, while listening with a stethoscope at the cardiac apex. If you get a new toxic rhythm, record it on the electrocardiogram. A somewhat similar phenomenon occurs if the serum potassium is depressed by an overload of glucose. An ounce or two of candy may be sufficient. In one half to two hours the patient may have his complaint and his arrhythmia may be recorded on the electrocardiogram. The arrhythmias picked up this way may be any one of the complicated arrhythmias attributed to advanced digitalis intoxication with or without hypokalemia, e.g. paroxysmal atrial tachycardia with block, nodal tachycardia, advanced atrioventricular block, atrioventricular dissociations of several types, multifocal extrasystoles, bigeminal or trigeminal rhythm, or

* Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

ventricular tachycardia. Fortunately with this test these arrhythmic phenomena are transient or will clear with some fruit high in potassium content. Lown and Levine have advocated a check of carotid sinus sensitivity in hospital patients before giving a new dose of digitalis. If the reflex is too sensitive the drug is temporarily stopped. This is important because these patients can have a period of asystole or a rapid tachycardia straining at the stool.

Many cases of congestive heart failure can be cleared with a simple regime of digitalis, a low sodium, high potassium diet, and restricted activity. These simple procedures should be used in as many heart failure patients as possible. This enables the physician to get an orderly appraisal of the value of digitalis in each particular case and to teach the patient how to handle his maintenance dosage possibly as a lifelong problem. The patient learns when to stop the drug, at the onset of his earliest symptom of toxicity, how long to remain off the drug and how to effectively maintain an intermittent dosage four or five days each week. This may be further refined by dividing the dose and taking it every twelve hours these few days of each week. The physician may find that even small doses of the drug produce toxicity without benefitting the patient and that the drug isn't worthwhile. The physician may find that the patient's failure is worsened with optimum digitalization and become more alerted to the possibility that the patient's underlying pathology is a myocarditis, a constrictive pericarditis or a muscular subaortic stenosis. As a group, patients in sinus rhythm with large ventricular aneurysmal scars have difficulty accepting even small doses of digitalis. Should acute myocardial infarction occur in a digitalized patient, he is almost sure to go into toxicity. The drug should be stopped temporarily.

Digitalis and Diuretics

In severe cases of congestive failure it will be necessary to use effective diuretics along with digitalization. Here is where a careful control of electrolytes, particularly potassium, is extremely important. Normally excreted urine averages 40.0 mEq. of potassium per liter. Digitalis diuresis causes the same magnitude of potassium loss. The various thiazide diuretics have been carefully studied for electrolyte loss. There is so much variation of the many thiazide derivatives in different patients that one can only come to an approximate estimation of potassium loss. This average is close to 40 mEq. per liter of urine. This allows a rule of thumb to be applied. Three grams or 40 mEq. of potassium chloride, will be needed to replace each two pounds of body weight lost. The average well balanced diet contains three to four grams of potassium and this balances normal urinary output. Potassium should be

replaced as diuresis is occurring. Four to ten grams of supplemental potassium chloride can be replaced each day. Massive diuresis is to be avoided. Should it inadvertently occur, the patient is kept in bed, while digitalis and the diuretic should be stopped until the potassium is again in balance. The mercurial diuretics usually excrete salt and water with relatively little potassium, but in an occasional patient the potassium loss is greater than that encountered in a thiazide drug. Potassium chloride supplement in addition to a high potassium food intake can be safely given as long as there is a normal urinary output. In oliguria from renal disease or severe electrolyte disturbance, potassium cumulates and may cause severe toxicity. Most of the digitalis excretion is in the urine. In oliguria, digitalis must be promptly stopped or it will cause cumulative toxicity. Patients on digitalis or diuretics should be instructed to avoid eating high carbohydrate desserts and candies and should be warned of the dangers of potassium loss in watery stools, either from enemas, laxatives or incidental diarrheas. They must learn to stop diuretics and digitalis with renal suppression.

When digitalization is used to control prolonged paroxysmal supraventricular tachycardias, it must not be forgotten that these patients have had episodes of spastic diuresis with the rapid heart rate and are apt to have low serum potassium. Supplemental potassium must be given or one is apt to find a paroxysmal tachycardia with a 2:1 block and an augmented digitalis intoxication in a patient with a presumably normal myocardium.

It should be mentioned in passing that when treating a paroxysmal tachycardia, often digitalis and quinidine are both used to control the episode. When the heart rate is normal the quinidine should be stopped for a day or two and an electrocardiogram should be taken. A few cases of Wolff-Parkinson-White syndrome have been uncovered by this device and of course suggest that quinidine is probably the drug of choice.

Ambulatory patients on digitalis and diuretics can usually handle an inexpensive diaphragm type of stethoscope profitably. If they can't, a relative or an attendant can be taught to take the apical rate. In fibrillators the resting and exertional rate helps dictate the daily dosage of digitalis. A rising rate despite increased digitalis is reported at once. A reversion to a regular rhythm must be reported. These patients must be seen at once and studied electrocardiographically for digitalis intoxication. There may be a paroxysmal atrial tachycardia with block, a toxic nodal rhythm or an atrial flutter with a 4:1 or a 5:1 block. There may be a toxic fibrillation with a regular ventricular rate. A few unusual cases have been seen that have reverted to normal sinus

rhythm. These have had digitalis toxicity for the ensuing several days. A stethoscope is of practical use in the home of digitalized patients with normal sinus rhythm. They may profitably stop digitalis temporarily with sinus bradycardia, extrasystoles or an unexplained rise in their sinus rate, whether it is regular or irregular. These latter patients should be seen and studied as soon as possible.

Diseases Affecting Digitalis Dosage

Patients on digitalis may have concomitant diseases that seriously affect their digitalis dosage. Poorly controlled diabetics are prone to get into toxic rhythms because of serum potassium levels reflecting high and low blood sugars. Fibrillators with recurrent pulmonary embolization are very easily intoxicated trying to bring down an elevated rate. Thyrotoxic fibrillators going into congestive failure are often intoxicated with digitalis before their fibrillation rate comes down and before the overactive thyroid responds to suitable medication or surgery.

Many recent drugs coming into wide usage for a variety of common diseases affect digitalis dosage. Rauwolfia given to digitalized fibrillators may cause an intolerable increase in the fibrillation rate on exertion. Veratrum used concurrently with digitalis has been reported to have caused death with a Stokes-Adams syndrome. Thiazide drugs or chlor-thalidone used in nonedematous hypertensives causes a lowering of serum potassium and this has to be watched and supplemented by potassium if they are to be maintained on digitalis. Many of these patients, if they are not fibrillating, may profitably be taken off digitalis. Should ACTH or adrenocortical steroids be used for any associated disease it must be remembered that these drugs raise the serum sodium and lower the serum potassium. Some of the sympatheticomimetic drugs used in bronchial spasm augment the effect of digitalis. Antihistamines and tranquilizers may nullify or overemphasize some of the early changes of digitalis overdosage we're so carefully watching, namely fatigue, unreality or depression.

Digitalized patients going to surgery require special attention. It seems best to handle them on one of the rapidly excreting glycosides. The same is true of diabetic and hepatic coma patients with their complicated electrolyte problems.

There are a sizable number of dyspneic patients with pulmonary emphysema who have been put on a steady dose of digitalis empirically. It seems a shame that they must suffer the fatigue of digitalis overdosage in addition to their fatigability on small effort. When cor pulmonale ensues they should be very carefully taught to control their digitalis dosage.

Many elderly people have a slow fibrillation rate

that doesn't rise significantly on exertion. Some seem to get cerebral toxic symptoms on small doses of digitalis with no benefit to their cardiac status. In fact the cardiac status may never have bothered them.

The deeply entrenched concept that the more diseased the heart the more necessary it is to force digitalis to the therapeutic hilt is no longer tenable with our present day diuretic management. As the same patient gets older his cardiac and cerebral tolerance of digitalis will decrease. It is amazing the small doses of digitalis some of these older people require to hold their fibrillation down to a good rate.

A few words are in order about prescription writing for digitalis products. Don't write an order for an estimated digitalizing dose and an estimated maintenance dose on the same prescription. The patients have been told to return but they have been known to get the same prescription refilled by excellent but overworked pharmacists and end up in a very embarrassing psychosis. Don't prescribe any digitalis for the ambulatory cardiac until you have digitalized him yourself and determined the maintenance dose. When he has learned how to take it he may safely be given a prescription. It is safer to prescribe proprietary products than a generic name. Lanoxin is safer to prescribe around a hospital than digoxin. Digitalis leaf should be prescribed as a name brand. Digitoxin should be prescribed by its proprietary name and use one of the companies that have different colored tablets for different sized doses. The proprietary name and dose size should be carefully labeled on each prescription. Patients travel extensively and this is a courtesy to the new doctor who may have to see them. There is nothing more disconcerting than to find a patient taking a small plain white tablet once a day and you can't tell whether it is 0.1 or 0.2 mg. of digitoxin.

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The Irregular Heart

Antazoline in Cardiac Arrhythmias And Its Side Effects

EUGENE M. MALONE, M.D., ROBERT P. STOFFER, M.D.,
and CHARLES POKORNY, M.D., *Halstead**

A DRUG WITH MINIMAL side effects that is helpful in the correction of cardiac arrhythmias is needed. Antazoline hydrochloride would appear to have clinical usefulness. The formula is given in *Figure 1*.

Antazoline was first introduced as an oral antihistamine in 1948. It was withdrawn for use in 1955 for allergic conditions because it failed to be superior to other drugs.

During the past two years we have given antazoline to 42 patients with a total of 50 arrhythmias. Most of the patients have been treated with oral antazoline in a tablet of 100 mg. size in a dosage of one or two tablets three to four times daily for a total dosage of 300-800 mg. a day. Intravenous antazoline was used in a selected number of patients with acute

Antazoline is an antihistamine with anti-arrhythmic properties.

The drug seems to be effective in reducing the number of premature ventricular contractions in most patients.

Tremors are the chief clinical side effect and are reversible.

The usual starting dose for oral therapy was 100 mg. q.i.d. If this proved ineffective the dose was usually doubled and anti-arrhythmic effects as well as side effects were noted. The results are shown in Table 1.

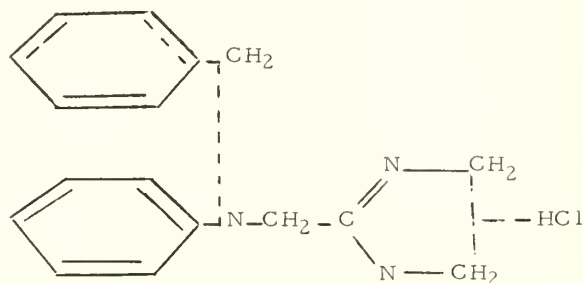
Discussion

Good results indicate a return to normal rhythm and a poor result indicates no essential change or improvement. As noted, in about two thirds of the patients the premature ventricular contractions were eliminated. Supraventricular arrhythmias responded less well.

Of interest is the fact that six of 14 patients with atrial fibrillation returned to normal. Of these, three were chronic fibrillators and three paroxysmal fibrillators.

One of the patients with chronic atrial fibrillation later, at autopsy, was found to have atrial metastatic bronchogenic carcinoma. Antazoline given orally was the only drug which would convert the fibrillation to normal rhythm. It was withdrawn on two occasions and re-started, each time with similar effect. Digitalis and quinidine were used without conversion; however, the latter was not pushed to tolerance. A patient with atrial flutter developed ventricular tachycardia. One case of ventricular tachycardia has been treated since the preparation of this paper, with a return to normal rhythm.

The side effects noted in the 42 patients are listed in Table 2; they seem to be dose related. None were encountered with a dosage of 400 mg. per day or under. Transient symptoms were present in those given I.V. medication.



Antazoline hydrochloride:
2-(N-benzyl-anilino-methyl)-
2-imidazoline

Figure 1. Antazoline hydrochloride formula.

arrhythmias. It was given by slow injection, 50 mg/ml in a dosage of 50-600 mg. per treatment. Inpatients and outpatients have been given the drug. Electrocardiograms were taken at least daily in those hospitalized. Continuous or intermittent monitoring was used for those having intravenous treatment. The age range in those treated was four to 81 years.

* From the Department of Internal Medicine, The Hertzler Clinic and The Hertzler Research Foundation, Halstead, Kansas.

Presented by Dr. Stoffer at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

As noted in Table 2, the most severe side effect with high dosage was a Parkinson-like tremor. This was usually a two per second action tremor of wide amplitude, or a four per second tremor of small amplitude at rest. These tremors were not associated with rigidity, but were so severe patients were unable to feed themselves. If the medication was discontinued, the tremors usually stopped within 24 hours. They usually occurred in patients in the above 60 age group. Tremors have previously been reported by Leon-Sotomayor.

Of some interest to the drug manufacturer was its noted effect in decreasing symptomatic flushing in a post-menopausal female. Antihistamines, though in wide use, have not been given credit for such "relief" to our knowledge.

In discussing the background concerning development of the drug, Dutta^{1, 2} has shown antazoline to be about twice as potent as quinidine in prolonging the refractory period of the atria. Burn^{3, 4} in his re-

TABLE 2
SIDE EFFECTS OF ANTAZOLINE

Tremors	6
Decrease in hot flushes	3
Drowsiness	2
Nausea	3

1962 encountered no toxic effects in a study of 28 patients with frequent premature systoles and 12 patients with rapid atrial or ventricular mechanisms; in 1963 they found that in 141 patients, 97 patients were benefited by oral dosage of antazoline and 44 by intravenous dosage.⁸

Corday and Irving, 1961, state that the drug has little toxicity. We feel there is drug intolerance in the 60 to 80 age group. In our series the average dose has been 400 mg. daily. When higher doses must be used to convert the arrhythmias, one must watch for tremors.

Leon-Sotomayor used antazoline in 1963 in 24 seriously ill patients. The patients were treated with intravenous medication in a dosage range of 100-800 mg. Ventricular tachycardia was controlled in a patient with myocardial infarction. Other supraventricular arrhythmias were benefited in about one-half the cases. Heart block was made worse with a rate change from 40 to 20. The indications and contraindications for antazoline are given in Table 3.

If we were treating a series of patients again we would possibly use more intravenous medication for acute arrhythmias using up to 10 mg/k dosage.

TABLE 1
RESULTS WITH ANTAZOLINE

	Good	Poor
Premature ventricular contractions ..	16	7
Supraventricular arrhythmia		
a) wandering pacemaker		1
b) nodal arrhythmia		2
c) paroxysmal sinus tachycardia ..	4	3
d) sinus tachycardia	1	
e) premature atrial contraction ..		3
Atrial fibrillation	6	8
Atrial flutter		1

view of antihistamines suggests that antagonism of acetylcholine activity accounts for the action of antazoline on cardiac activity. McKechnie in 1952 showed that antazoline reduced the number of ectopic beats and also that when dosage was increased to 300 mg. either intravenously or orally the side effects became quite prominent.

At the Ciba Pharmacology Laboratories it was found that antazoline protected the feline heart from irregularities and depression produced by aconitine. Others have shown that antazoline protects the dog's heart more effectively than quinidine in the irregularities produced under hypothermia. It has been found that as long as the dosage is left below 10 mg/k intravenously, antazoline is highly effective and safe in both the cooling and rewarming periods.

Likoff and his group have found this drug effective and a well tolerated anti-arrhythmic agent in premature systoles of either atrial or ventricular origin in 40 patients. Drs. Kline,⁷ Dreifus and associates in

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TABLE 3
INDICATIONS AND CONTRAINDICATIONS
FOR ANTAZOLINE

Indications for Antazoline

1. For control of premature ventricular contractions, particularly in those with digitalis intoxication.
2. For attempted conversion of supraventricular arrhythmias (especially atrial tachycardia and atrial fibrillation).
3. For attempted conversion of ventricular tachycardia.

Contraindications

1. Heart block
2. Possibly in atrial flutter

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AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled Part I (written) examination of this Board will be held at various examining centers in the United States, Canada, and military bases outside of the continental United States on Friday, December 11, 1964, at 2:00 p.m. Candidates eligible to take this examination will be notified on or about November 1 where to appear for examination.

The 1964 Bulletin containing detailed information on the requirements and procedure of application in accordance with the new schedule of examinations beginning in 1965, is now available upon request. Bulletins may be obtained by writing to the office of the Secretary, Clyde L. Randall, M.D., American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216.

SPECIAL NOTICE

Beginning in 1965, NEW APPLICANTS will be required to submit an application for the Part I (written) examination (together with training verifications) between January 1 and February 28. Previous applicants (Reopened and Re-examinees), whose training credits have been approved by the Credentials Committee of this Board, may be scheduled for the Part I examination upon written request received no later than February 28 in the year of examination.

Applications for the Part I examination are now

available and may be obtained by writing to the office of the Secretary.

Diplomates of this Board are requested to inform the Secretary's office of any change in address.

TIME-ZONE FATIGUE

Jet travel has produced a new disorder, the time-zone fatigue syndrome, reports Dr. James E. Crane, medical examiner with the Federal Aviation Agency.

This year a record number of tourists are flying at subsonic speeds to every part of the globe. On arrival, the intercontinental jet traveler may unexpectedly find himself extremely tired, tense and irritable. Symptoms may last for days. Further, the experience may recur on the return trip.

"The time-zone fatigue syndrome is a new clinical pattern that is the end result of subsonic or hyper-sonic migration through a varied number of time zones," Dr. Crane said. The experience may be merely discomforting for the occasional traveler, but long-range "commuters," who regularly jet across four or five time zones, may have more extreme symptoms. A number of persons, after such flights, have been known to suffer a collapse from exhaustion that closely resembles a heart attack.

The FAA medical examiner believes that the root of the syndrome lies in the disorientation of the metabolic cycle. Transportation by jet to other time zones requires what he calls a "physiological shift." The traveler finds himself eating, sleeping and performing other bodily functions at a drastically different time from that to which his system is accustomed. The result is "time-zone fatigue."

Such a disorganization does not occur when very few, or no time zones are crossed. For the ordinary healthy traveler, rest is the best prescription. Dr. Crane advises that the flight to a distant time zone should be so scheduled that the traveler is not forced into an immediate round of activities on a new time schedule. On arrival, he should give himself as long a rest period as possible, to allow his body to adjust metabolically to the chronological time.

Medical World News 5:62 (Aug. 14) 1964

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Sheehan's Syndrome . . .

. . . As Encountered in an Internist's Practice

D. V. PREHEIM, M.D., *Newton**

AS A MEDICAL RESIDENT at the University of Colorado, I encountered the problem of massive hemorrhage with shock due to abruptio placentae in a parturient. Acute fibrinogenopenia occurred but the patient survived the episode, as well as our treatment, and went home. Several months later I saw her in consultation at the Colorado Psychopathic Hospital in extremis. Her psychosis dated from the obstetric accident. She had not lactated or menstruated since, and showed the signs of panhypopituitarism. She died within a few hours and at autopsy a completely hyalinized anterior pituitary with atrophy of breasts, loss of body hair, and atrophy of gonads, thyroid and adrenals was encountered. This experience aroused my interest in the problem of postpartum pituitary necrosis which occasions this report.

In 1937, Sheehan¹ reported the frequent finding of areas of pituitary necrosis in patients dying during the puerperium after a difficult labor. Sheehan and co-workers in subsequent reports,^{2, 3} established the clinical features of the syndrome of postpartum pituitary insufficiency which is now known as Sheehan's syndrome. It is typically characterized by failure of lactation in the puerperium, amenorrhea, loss of axillary and pubic hair, genital and breast atrophy, super-involution of the uterus, sterility, symptoms and signs of hypothyroidism, and various degrees of adrenocortical insufficiency. The syndrome encompasses a spectrum of severity from the full-blown picture described to combinations of the effects of the loss of the various pituitary tropic hormones; thyrotropins, adrenocorticotropins, and gonadotropins. Sheehan established rather conclusively that the "pituitary cachexia" of Simmonds probably represented anorexia nervosa or some condition other than pituitary necrosis in the majority of instances. This is now generally accepted. Subsequent pregnancies have occurred,^{2, 4} after the onset of the postpartum pituitary necrosis and are in fact the best method of improving the patient's condition. It is possible to experience selective loss of gonadotropin and thyrotropin with preservation of a degree of gonadotropin.⁵ Diabetes insipidus can be part of the syndrome.⁶

The pathogenesis of postpartum pituitary necrosis was described by Sheehan and Murdoch "At a normal delivery there is presumably a physiologic reduction in blood flow to the anterior lobe. If, in addition to this, there is a severe general collapse, it is possible that the blood flow to the anterior pituitary may be so reduced that thrombosis occurs in vessels of the lobe and leads to ischemic necrosis." Faria and de Oliveira ascribed the pathogenesis to oligemia. Beernink and McKay consider it due to "transient vasomotor changes in this organ."

Six previously unrecognized cases of Sheehan's syndrome were encountered in the routine practice of one internist over a ten-year period. The literature on this syndrome is reviewed. Illustrative case material is presented and the etiology, pathogenesis, diagnosis, treatment, and probable incidence is discussed. Evidence is presented that many of these cases are unrecognized and untreated. The need for the attention of internists to the problem is emphasized.

The clinical course of Sheehan's syndrome is unpredictable. Patients have been known to live many years with well-defined, untreated hypopituitarism while those who die of the disease usually do so in coma. In some cases with mild pituitary damage, it is thought that active reorganization of the gland takes place and that the gland can return to normal function. Under these circumstances, the disease may be so slight or transient as to completely escape detection. Engstrom reported a case in which 25 mg. cortisone and 120 mg. desiccated thyroid produced normal menstruation after four months. Replacement was stopped two times and each time the symptoms recurred. The patient used contraception and had not again become pregnant. Subsequent stress with collapse and death is an ever present threat to the more severely involved patient.

Sheehan and Summers³ estimate that patients who

* Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

retain 25 to 30 per cent or more of their pituitary have little evidence of pituitary hypofunction and the diagnosis can be quite uncertain. This is certainly true in three cases in the present series. There is a correlation between the degree of pituitary destruction and severity of the disease.

The diagnosis depends primarily on a high index of suspicion and the taking of an adequate history. Frequently, the obstetric record is incomplete or lost. Patients invariably present themselves with symptoms referable to the target organs: thyroid, adrenal cortex, or ovary. Kammer states that when in addition such a patient has scant or absent pubic and axillary hair, the clinical evidence for pituitary failure is strong. End-organ failure, especially of adrenal cortex and thyroid can be assayed. Whenever possible, pituitary gonadotropins as secreted in the urine should also be estimated. These are usually undetectable or grossly reduced. By the use of thyroid stimulating hormone (TSH), it is possible to separate those patients with hypothyroidism secondary to primary thyroid disease. Similarly, adrenocorticotrophic hormone stimulation has been used to identify cases of primary adrenal disease since such patient's adrenals will not respond.

Treatment of the syndrome depends upon its severity. Because aldosterone secretion is not entirely dependent upon adrenocorticotrophic hormone, electrolyte loss is not usually a serious problem. The equivalent of 25 to 37.5 mg. of cortisone, with appropriate increases during times of stress, is usually adequate. Thyroid USP, in dosage of 120 to 180 mg. per day, or equivalent doses of thyroxine or triiodothyronine usually suffices; 0.5 to 1.0 mg. of diethylstilbestrol or equivalent doses of other estrogens given three weeks of every month are usually adequate. One may add androgens for protein anabolic effect and for further improvement in well-being.

Over a ten-year period (July, 1953 through June, 1963), six such cases were encountered and identified in my practice. These were all diagnosed *de novo* and retrospectively (as obstetric problems in an internist's practice should properly be). I practice internal medicine in a ten-man multi-specialty group. Some of the cases were referred from within the group, some from outside the group, and some were self-referrals. During this period of time, physicians within the group effected a total of 2,150 deliveries. Assuming that the movement of the patient population, both obstetrical and total, within and without the group, was relatively constant (as it probably was); and assuming that the two other internists in the group saw an equal number of cases, a total of 18 patients or 0.9 per cent of the deliveries would have experienced this complication. Hall, studying the

records of 344 cases, from the Radcliff Infirmary Flying Squad postpartum hemorrhage collapse patients, encountered an incidence of 3.6 per cent of hypopituitarism. Schneeberg et al, estimated an incidence of one out of 60 inpatients attending the metabolic disease clinic at the Philadelphia General Hospital in 1956 and 1957. Unfortunately, none of these estimations of incidence are comparable and I know of no reliable reports of incidence with which to effect a proper comparison.

Case Report No. 1

A 29-year-old white farm wife was seen with complaints of profound lassitude and weakness of six years' duration. Eight years previously, she had experienced an uneventful pregnancy and puerperium. Six years previous to being seen, she had suffered an abruptio placentae with intrapartum death of the fetus. There was massive hemorrhage requiring six units of blood and two units of plasma. She did not menstruate following this and her axillary and pubic hair became sparse. In 1949, she suffered a spontaneous abortion which was not medically documented. Libido was non-existent. BMR was minus 31 and minus 33. Fasting blood sugar was 91 mg. per cent and hemoglobin, 12.3 gm. per cent. She improved on 120 mg. thyroid and 20,000 units of estrogenic substances monthly. However, she did not regain a satisfactory feeling of well being until dexamethazone, .75 mg., two times a week, was added to the regimen. She has since adopted a daughter, does her own work, and helps on the farm. Libido is satisfactory.

Case Report No. 2

A 38-year-old white housewife was seen with complaints of irritability, peplessness, depression, and "can't think straight." There was one pregnancy, producing a daughter who was 18 when the patient was first seen. "I had malaria at the time and the doctor gave me quinine." This course was marked by "hemorrhage" and collapse, and she was given "two transfusions." Two years later, a tubal ligation was done. There were no further menses, breasts became smaller, pubic and axillary hair became sparse, the skin became dry, and the voice became husky. Libido was said to have remained unimpaired. Blood cholesterol was 276 mg. per cent; PBI, 6.8 gamma per cent; I-131 uptake, six per cent in six hours, and 13 per cent in 24 hours. 17-ketosteroid excretion in the urine was 10 mg. per 24 hours, and 17-hydroxy corticosteroids were zero in 24 hours. She is taking 180 mg. of desiccated thyroid daily; Premarin®, 1.25 mg., daily; and dexamethazone, .75 mg., two times

Premarin®, Ayerst Laboratories, New York.

a week. Unfortunately, she had a psychotic break and has been lost from follow-up.

Case Report No. 3

A 49-year-old white housewife was seen with complaints of fatigability, irritability, "tired and worn out since my uterus was removed (some 18 years previously)." There had been two normal pregnancies followed by a series of five miscarriages, the last of which went to term but ended in miscarriage. She hemorrhaged, "requiring two transfusions and was almost given up." Because of continued bleeding during the puerperium, hysterectomy was carried out two months later at age 31. Pubic and axillary hair became sparse and dry. She became constipated and developed blackout spells. She weighed 197 pounds, blood pressure was 142/80, and the voice was hoarse. PBI, 2.8 gamma per cent; blood cholesterol, 185 mg. per cent; I-131 uptake, six per cent in six hours and ten per cent in 24 hours. She was started on 60 mg. USP thyroid daily and is now taking 120 mg. thyroid and feels well.

Case Report No. 4

A 50-year-old white housewife seen with complaints of "exhausted feeling, weakness, pepleteness." She had been on estrogen therapy for 12 years. "At first it helped, but now it doesn't seem to help." There were two pregnancies, a son was born 30 years previously. It was a "difficult delivery." She "hemorrhaged" but was not transfused. She did not lactate, but "after a time" again had menses. Following this, she gained weight and became obese. Nine years later, she became pregnant and bore a daughter. Delivery was uneventful. She lactated "but inadequately" and again had menses. There was no marked loss of body hair, but axillary and pubic hair were sparse. PBI, 6.1 gamma per cent. I-131 uptake seven per cent in six hours and 12 per cent in 24 hours. Blood cholesterol, 224 mg. per cent. Blood sugar, 88 mg. per cent. No adrenal studies have been done. She is being maintained on 0.5 mg. diethylstilbestrol per day for 21 days every month, and thyroid, 120 mg. daily. Her sense of well-being is much improved. She does her own housework and holds a job as a stock-room clerk in a department store.

Case Report No. 5

A 35-year-old white housewife complained of "everything seems to be crowding in on me," "I see double when I'm upset," "I have been depressed," and "I have no ambition." There were nine pregnancies with four living children. Of these, one pregnancy terminated at six months with massive hemorrhage necessitating blood transfusions because

of shock. The youngest living child was born after this episode and again hemorrhage and shock necessitating transfusion occurred. She was hospitalized for hepatitis following the last transfusion. Periods have been regular but scant since then. PBI, 4.5 gamma per cent. Cholesterol, 185 mg. per cent. I-131 uptake, ten per cent in six hours, and 16 per cent in 24 hours. 17-ketosteroids, 8.5 mg. in 24 hours. 17-hydroxycorticosteroids, 13.2 mg. in 24 hours. It is felt that this patient had minimal pituitary necrosis and is getting along without target organ support, but would probably have an improved sense of well-being if this were provided her.

Case Report No. 6

A 41-year-old white female seen with complaints of "anemia, run down, and pepleteness." During laparotomy at age 38, a fibroid uterus was found, but no gynecologic work was done. Subsequently, she became pregnant and delivered a stillborn fetus. There was massive hemorrhage and shock. Blood and plasma were given (quantity not known) and after a "rocky time" she survived. There was no lactation, and she has had no further periods nor molimina. She gained approximately ten pounds weight in the following three years. Skin and hair became more dry. Pubic and axillary hair were present. PBI, 3.9 gamma per cent. I-131 uptake, six hours, two per cent and 30 hours, one per cent. No adrenal studies have been done as yet. Since this patient may have been hypothyroid prior to this pregnancy, she was started on thyroid, USP, 60 mg. per day. If the clinical response, including a sense of well-being, is good, further studies will be held in abeyance. If the response is less than good, adrenal function studies and perhaps TSH stimulation of the thyroid will be undertaken.

Discussion

This presentation does not presume to be an original investigation nor to show scientifically complete patient work-up. Rather, its purpose is to re-emphasize to internists, psychiatrists, and generalists the need for an awareness of Sheehan's Syndrome so that it may be recognized and these unfortunate patients and their families given the help they deserve. Many observers have commented upon the psychiatric aspects of the disease. The mental and emotional components in thyroid and adrenal insufficiency have long been recognized. Indeed patients with Sheehan's are not infrequently first encountered in psychiatric hospitals.

An awareness of this entity should enable an internist to be a more useful consultant to his obstetrical and general practice colleagues in both the

immediate and long term care of patients who experience postpartum hemorrhage or shock. All complicated deliveries and puerperia should be systematically followed to ascertain whether or not they develop clinical panhypopituitarism or a variant thereof.

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One Minute Serum Globulin Screening Test

John B. Christodoulopoulos, M.D. (by invitation) and Arthur P. Klotz, M.D. (F.A.C.P.), Department of Medicine, University of Kansas Medical Center, Kansas City, Kansas.

A simple rapid test for abnormal globulin levels can be quickly performed in any physician's office. The simplicity of the test permits its application to every patient including those presenting for routine periodic examinations.

One drop of serum is added to 5 ml. of three per cent hydrogen peroxide. A white precipitate quickly forms if abnormal amounts of globulin are present. The test readily identifies sera with reversed A/G ratios. Borderline ratios of albumin and globulin result in a cloudiness rather than a precipitate because of the test's sensitivity. In such instances usual protein determinations should then be performed. No false negatives have been found.

Because of its simplicity and rapidity it can be used in all patients, many of whom would not have routine protein determinations and would, therefore, not be identified as having any abnormality.

Excellent correlation has been obtained with the standard chemical serum protein determinations with serum electrophoresis.—Abstracted from a paper presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

REFERENCE LISTS

How long should reference lists be? There is rather general agreement that in most of the articles in state journals a list of five or six references will usually be adequate. Except in special review articles, or research articles, complete lists of references are not needed, and, in fact, are out of place. A general guide is to include in a reference list: (1) Only articles which have actually been read in the original (not an abstract of a translation) and (2) Only articles which are actually mentioned in the text of the paper.

How many reference numbers should be in the text? Remembering that they are distracting to the reader as he goes through the article, they should be eliminated if they serve no purpose. If a quoted author appears in the reference list only once, it is obvious that this is the article to which reference is made, and no "superior number" is necessary for it cannot be confused. Papers are written to be read, and it is desirable to keep them interesting and to avoid distractions whenever possible.

Allergy Treatment

Personal Observations With Repository Allergy Therapy

HARVEY J. MEULBROEK, M.D., *Wichita**

THE TREATMENT of inhalant allergy with allergen-adjuvant mixtures has been felt by many to be a step forward in the management of the allergic patient. Others have been very critical and reluctant to accept this treatment technique. This paper is not an attempt to analyze the pathology of reactions, or to discuss the medico-legal aspects of depot therapy, or even to give an evaluation of the current status of repository treatment, but only to try to evaluate the patient's response to this method as used in our office.

The method of hyposensitization by weekly injections of aqueous extract of an inhalant antigen was introduced and promoted approximately 50 years ago by such well-known pioneers in the field of allergy as Noon, Cooke and Coca. Until recently this has continued to be the standard technique of allergists in the management of their patients. However, in 1942 Jules Freund published a study indicating that sensitization to horse serum could be enhanced when the antigen was well emulsified with an oil and killed mycobacteria. These nonantigenic substances (oils, alum, various polysaccharides), which when mixed with antigen cause an enhanced antibody response, are called adjuvants.

Early efforts, particularly those of Mary Loveless, in the 1940's and early 1950's to apply this adjuvant principle to clinical allergy were discouraging, due mainly to technical problems involving the proper oil, choice of emulsifying agents and problems in the technique of injection. It remained for E. A. Brown in 1957 to develop techniques which permitted broad application of emulsion injection treatment in the daily practice of allergy.

Preparing the Emulsion

The present method of preparation of the antigen-adjuvant mixtures in our office is a modification of the methods proposed by Brown and quite similar to some of the later preparations of Mary Loveless.

By using two Luer-Lok syringes an aqueous phase containing the desired amount of antigen is injected through a Swinney adaptor and double hubbed connector into a combined oil-emulsifier, then, either

manually or by machine the material is injected back and forth through the Swinney adaptor which contains a fine wire mesh with a pore size of 45 micra for approximately 150 times. This has been arbitrarily found to be more than necessary to make the average emulsion safe from break-down. The result is a thick creamy emulsion about the color and consistency of sour cream, which is tested for completeness of emulsification by microscopic appearance as well as

In spite of occasional reactions, the treatment of inhalant allergic problems with antigen-adjuvant mixtures is convenient, economically reasonable and relatively free from side effects. A personal evaluation of this therapy is presented here.

various physical tests. The emulsion is now ready for injection. The desired amount of emulsion is measured into a tb syringe to which is attached a 25 gauge five-eighths inch needle. In the past, moderate dosages of antigen were injected by using the 1/2 to 1 cc. of the emulsion and injecting deeply in the subcutaneous tissue of the upper arm, slowly rotating the syringe on its vertical axis to cause a more equal dispersion of the emulsion in the tissue. In 1962 Brown published a modification of this technique which he termed the vitellinic injection whereby it is attempted to surround a more highly concentrated core of antigen-emulsion mixture with an inert covering of saline-emulsion mixture much in the same way the yolk of an egg is surrounded by the albumen. Whether this can be consistently accomplished in practice is open to question; however, since utilization of this technique in our office in approximately 75 injections, we have noted only one local reaction and no systemic reactions even though in two instances the dosage was identical to that which had previously caused a systemic and local reaction by the former technique.

The injection is usually given six to eight weeks prior to the onset of a seasonal problem, or approximately every four to six months for perennial inhalant problems.

* Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

Selecting Patients for Treatment

Several factors are considered in the selection of the patient for repository therapy.

(1) *Past Experience With Allergic Therapy*—This includes people who have been failures on aqueous treatment even though the proper antigen diagnosis was made. Many of these people request emulsion treatment and seem to do quite satisfactorily. Also included are those people who have been aqueous treatment failures because of inaccurate or incomplete diagnoses of antigen involved in their problem, or inadequate consideration of non-allergic factors contributing to their problem. These people sometimes are somewhat reluctant to return to an aqueous treatment program even though it has been altered and are convinced that the newer repository treatment will be the broom to more cleanly sweep away their allergic symptoms.

(2) *Patient Convenience*—Under this heading it is necessary to consider that many of the patients who come to the office for allergic evaluation have traveled a considerable distance and would find this distance prohibitive if the therapy program involved frequent office visits. Another consideration would be the patient whose occupation makes it inconvenient or impossible to come in regularly for frequent office visits.

(3) *Patient Expense*—Even though the cost of a single emulsion injection is somewhat more than the cost of a single aqueous injection, the fact that there are many less office visits considerably reduces the over-all cost to the patient, therefore, making allergy treatment feasible to increased numbers of patients with limited means. In this category we must also consider the patient whose time is so valuable that frequent office visits make treatment cost excessive.

(4) *Age and Size of Patient*—It is a fact, based on no well grounded data, that we are more reluctant to give repository treatment to small children—we have not noted any increase in reactions, but injecting 1 cc. of a semi-liquid material in a thin arm without much subcutaneous tissue is somewhat esthetically repulsive. A less emotional consideration is the knowledge that some children who have both inhalant and food sensitivities seem to improve generally if their food sensitivities decline with a maturing gastrointestinal tract. Whether this improvement is due to a reduction in the over-all antigen is only a guess.

(5) *Doctor-Patient Contact*—Under this heading are essentially three groups of people. First, there are some dependent patients who need frequent office calls to ventilate. These people seem to be able to find reasons to come in other than for their allergy injections for hay fever, asthma or eczema, if these are treated with infrequent visits. Secondly, there is a group of

quite seriously ill patients who need careful control of their symptomatic therapy. Interestingly, these patients can sometimes be successfully switched to repository treatment after satisfactory control of their problem has been achieved. Thirdly, there are those people in whom neither the history nor the skin test give a clear picture of the patient's total problems or the antigen involved. In these patients the course of treatment is not clearly defined, but close frequent observation of these people for a time often clarifies a rather perplexing problem.

(6) *Reactions*—Though there are slightly more frequent reactions per injection from emulsion injections, when it is considered how many aqueous injections (approximately 16) needed to achieve an equivalent result, the aqueous reactions are far more frequent than those from emulsion therapy. An interesting problem not uncommonly encountered along this line is the patient, who at rather low dosage of aqueous treatment, keeps getting mild reactions at a level of therapy that is insufficient to give satisfactory symptomatic relief. We have found that sometimes satisfactory relief without additional reactions can be safely achieved by switching to emulsion therapy.

Reactions to emulsion therapy encountered are divided into local reactions and systemic reactions. Local reactions consist of (a) transient swelling or (b) persistent fibrotic nodule or cyst formation. Systemic reactions consist of (a) urticaria or (b) constitutional reactions which are usually a duplication of symptoms that brought the patient to the office. It is hard irony that the one cyst (out of 1,500 injections) from repository therapy in our office occurred in a doctor's son and was surgically excised. The pathology specimen was a sterile abscess containing an oily material.

Results of Emulsion Therapy

Table 1 shows the type and frequency of reactions encountered in our office in 1963.

During 1963 it was decided to analyze results of both aqueous and emulsion therapy and try to compare them. One hundred and forty randomly selected

TABLE 1
REACTIONS IN 1963

Injections	505
Total Reactions	37 (7%)
Local	
Transient swelling + small persistent nodules (no cysts)	22 (4%)
Systemic	15 (3%)
Urticaria	9 (1.8%)
Constitutional	6 (1.2%)

TABLE 2
CLASSIFICATION OF TREATMENT RESULTS

- (5) Excellent—symptom-free, no medicine.
- (4) Good—minimal symptoms easily controlled with occasional antihistamine or bronchodilator.
- (3) Fair—mild to moderate symptoms controlled most of the time with antihistamines or bronchodilators.
- (2) Poor—moderate to moderately severe symptoms necessitating antihistamines (or bronchodilators) plus steroids.
- (1) No improvement or worse.

active repository patients were sent a brief letter informing them of our desire to evaluate their treatment program. They were requested to rate their treatment results relating to a comparison of pre-treatment vs. post-repository treatment symptoms and to estimate the amount of medication needed to establish symptomatic control. At the time we started this paper, 125 of the 140 patients had answered the inquiry. It is noteworthy that many of these patients represent more than one antigen problem, and since several of the patients were followed for more than one year, the total number of injections under consideration is approximately 460.

Data accumulated from the 125 patients was applied to the classification of treatment results as shown in Table 2.

It is readily apparent that this classification is arbitrary and since there is not the least suggestion of utilization of a double blind technique in the analysis of the results, there is no doubt considerable bias. It was of some interest, however, that I rather consistently rated the patient lower than he evaluated himself. The reasons for this difference of opinion could lead to some interesting philosophical speculation and personal introspection that I did not feel

TABLE 3
REPOSITORY TREATMENT RESULTS
(125 PATIENTS)

	<i>Patients</i>	<i>%</i>
(5) Excellent	18	15
(4) Good	59	47
(3) Fair	29	23
(2) Poor	16	13
(1) Failure	3	2

should be included in this paper. In spite of these abstract considerations the following results were tabulated.

Repository therapy results (Table 3) compare very favorably with the results of aqueous therapy on 50 patients (Table 4).

Superficial examination seems to indicate significantly superior results from repository treatment, but it should be kept in mind that frequently the more difficult patient, who would need more careful and frequent symptomatic management, is usually placed on aqueous therapy. It also seems quite obvious that there should be more failures and the explanation for this is that they are no longer taking their problems to me to be evaluated.

TABLE 4
50 PATIENTS ON AQUEOUS R

	<i>Patients</i>	<i>%</i>
(5) Excellent	4	8
(4) Good	15	30
(3) Fair	25	50
(2) Poor	6	12
(1) Failure	0	0
	<u>50</u>	<u>100</u>

Can U. S. Savings Bonds be used as loan collateral? No—and for your own protection. No one can redeem Savings Bonds except that person to whom bonds are issued, or the legally authorized guardian or custodian for that person.

Leukemia Inhibition?

Hypothesis and Preliminary Report On the Use of Extracts of Thymus in Mouse Leukemia

FRANKLIN R. MILLER, M.D., and ELLEN N. MILLER, Winfield*

IN 1943 MILLER AND TURNER advanced the theory that there are two substances in the body which are mutually reciprocal in action. In the individual with leukemia these substances seem to be out of balance. One of the substances stimulates myeloid proliferation and at the same time brings about lymphoid maturation. The other stimulates lymphoid proliferation and by its regressive action brings about myeloid maturation.

Szent-Gyorgyi et al have reported that extracts of thymus, muscle tendon and aorta contain two active substances, the one promoting and the other inhibiting malignant growth. In the normal both substances are present and compensate one another, and no activity is observed. The substances are also found in the urines of children and young adults. The growth promoting substance is termed promine, the growth inhibiting substance is given the term retine.

Considering our own past work and that of Szent-Gyorgyi et al, a theory was postulated that the thymus

growth slows down and the mammal reaches puberty the blood picture changes to more myeloid activity. At this time the activity of the gland also is reduced and in some cases involutes or disappears.

Also at times during severe infection it has been noted that the thymus enlarges and becomes more active.

It is possible to transfer AKR leukemia to C₃H adult mice with the aid of an extract of thymus from unborn calves. This is probably the promine described by Szent-Gyorgyi or something similar to lymphokentric acid. It is our hope to obtain a material from adult thymus that would regress tumor growth.

Experiments were set up to see if saline extracts of thymus would aid in bringing about transfer of AKR leukemia cells to C₃H adult mice. The latter do not have spontaneous leukemia and usually do not accept such transfer of leukemic cells.

Methods

The method of making the unborn calf thymus extract was as follows: unborn calf thymus glands were obtained and frozen immediately upon removal. When enough glands were gathered and frozen 500 grams of glands were put through a meat grinder while still frozen. To this was added 1,500 cc of normal saline solution. It was mixed for ten to twenty minutes by hand, or two or three minutes in a Waring blender, and then centrifuged at 2,000 r.p.m. for ten minutes. The supernatant fluid was then removed and frozen until it was to be used. Then this clear material was melted and passed through a very coarse filter and then through a Zeitz filter under low water pressure. This material was then put in sterile bottles and refrigerated until used. Injection of this material was made intramuscularly. There was no apparent evidence of infection from the use of this material.

The mice received one-half cc daily of the thymus extract for three days. Then they were given one

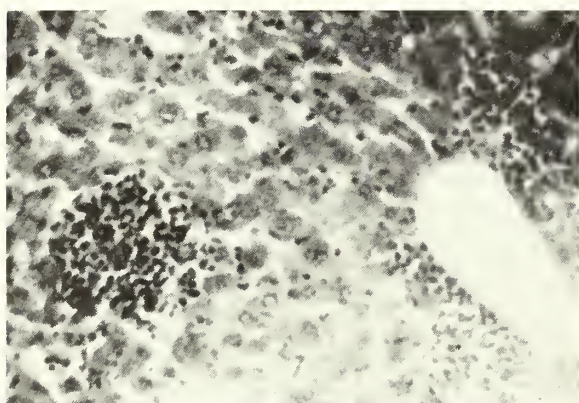


Figure 1. AKR Original leukemia.

gland might produce the two hormones which are normally in balance in the body. In the very young mammal one substance is in the ascendency. This is during the period of greatest growth and cell development. This also coincides with the period when the blood differential shows more lymphoid activity. As

* Presented at the regional meeting of the American College of Physicians, Kansas City, Kansas, February, 1964.

dose of one-half cc of whole cell emulsion from AKR leukemia mice and then daily injections of one-half cc of thymus extract were continued for 21 days or until death occurred.

To one group of C₃H mice whole cell emulsions of AKR mouse leukemia were given. To another group a saline extract of thymus gland was given. To a third group of C₃H mice both whole cell emulsion of AKR leukemia and daily injections of one-half cc

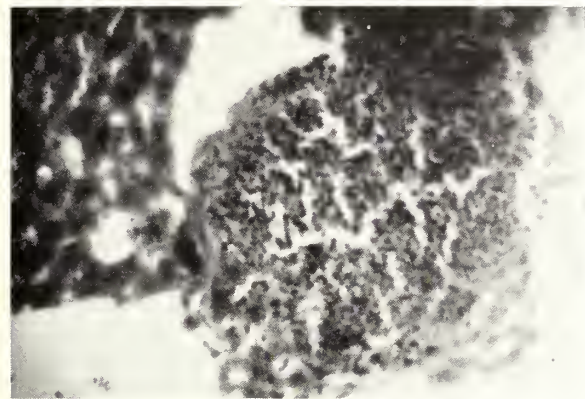


Figure 2. AKR leukemia in C₃H mouse liver.

of saline thymus gland extract made from unborn calf thymus were given. Also as controls the whole cell leukemia emulsion from the AKR mice was given to a group of AKR adult mice.

Results

The AKR control group all died within 21 to 28 days or were sacrificed when they became so ill that it was obvious they would die. All sections on this control group of AKR mice showed evidence of leukemia.

Of the C₃H group of mice that received only extract of unborn calf thymus none died, nor appeared ill. All were sacrificed and sectioned and were found negative for leukemia.

Of the C₃H group of mice receiving whole cell emulsion of AKR leukemia only, all remained healthy until sacrificed and all findings were negative.

Of the C₃H group of mice that received extract of unborn calf thymus plus the whole cell emulsion of AKR leukemia over 50 per cent died within three weeks. They all looked ill, had ruffled fur, humped backs, enlarged abdomens and were sluggish. Those that were sacrificed had very large spleens, large to extremely enlarged lymphnodes, and some had enlarged livers. Microscopic findings by C. A. Hellwig, M.D. of Halstead, Kansas, showed leukemic infiltration in the spleens of these animals and in the lymphnodes and occasionally in the livers. Either by gross or by microscopic examination over 60 per cent

of all animals were found to have leukemic infiltration.

Retransferring leukemia cells from one group of adult C₃H mice to another group of adult C₃H mice was tried. It was found that this could be accomplished only when extract of unborn calf thymus was administered along with the whole cell emulsion. However, transferring of the leukemia cells from C₃H mice to the AKR mice was accomplished without use of the extract (*Tables 1 and 2*).

Discussion

In 1908 Ellerman and Bang were able to transmit chicken leukosis by a filterable agent. Since 1951 mammalian leukemias and tumors have been transmitted by filterable agents. It has seemed to us, even though all new growth may be instituted by filterable agents (viruses) or a mutation of genes (there is much evidence that viruses and genes are very similar), that controlling hormones or enzymes may influence the animals' ability to accept the foreign virus or mutation of genes.

Therefore the one substance that we have obtained from the water extract of unborn calf thymus may help promote the growth of heterologous transplants, and thus we have produced leukemic "takes" in adult

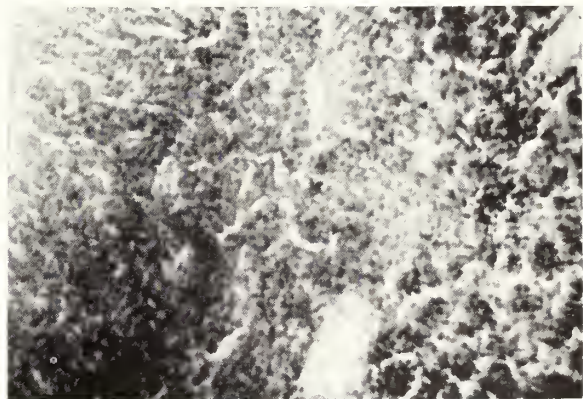


Figure 3. AKR leukemia in C₃H mouse spleen.

C₃H mice from the cells or cell particles from AKR leukemia mice. These have been retransplanted in two generations of C₃H mice but only when the thymus extract was given. In two animals were we able to retransplant the leukemia from C₃H mice to AKR mice without the aid of the extract.

Work done under the auspices of the H. L. Snyder Memorial Research Foundation, Winfield, Kansas, and William Newton Memorial Hospital, Winfield, Kansas.

Thanks to Maurer-Neuer Packing Company, Arkansas City, Kansas, and Sheneman Meat Packing Company, Winfield, Kansas, for assisting in collecting thymus glands.

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TABLE 1

<i>Number & Kind of Animals</i>	<i>Received Whole Cell AKR Emulsion</i>	<i>Received Normal Saline</i>	<i>Received Thymus Extract</i>	<i>Survival Number of Days</i>	<i>Evidence of Lymphoma</i>
10 C ₃ H Controls	1/2 cc	1/2 cc Daily	None	Sacrificed 28 Days	None
5 C ₃ H Controls	None	None	1/2 cc Daily	Sacrificed 28 Days	None
10 AKR Controls	1/2 cc	None	None	Sacrificed or Deceased 21-28 Days	Positive
30 C ₃ H	1/2 cc	None	1/2 cc Daily	Deceased or Sacrificed 21-28 Days	23 Positive Gross and Microscopic 7 Negative

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TABLE 2

<i>Number & Kind of Animals</i>	<i>Received Whole Cell Emulsion</i>	<i>Received Normal Saline</i>	<i>Received Thymus Extract</i>	<i>Survival Number of Days</i>	<i>Evidence of Lymphoma</i>
2 AKR Controls	Transfer From Normal C ₃ H Mice 1/2 cc	None	None	Sacrificed 25 Days	Negative
25 C ₃ H	Transfer From Treated C ₃ H Mice 1/2 cc	None	1/2 cc Daily	Deceased or Sacrificed 21-30 Days	14 Positive Gross and Microscopic 11 Negative
21 C ₃ H	Transfer From Treated C ₃ H Mice 1/2 cc	None	None	Sacrificed 21-30 Days	21 Negative
2 AKR	Transfer From Treated C ₃ H Mice 1/2 cc	None	None	Sacrificed or Deceased 21-28 Days	Positive



A Rapidly Progressive Nephrotic Syndrome

SIX MONTHS before his first admission the patient had a dental extraction that was followed in two weeks by a gradual swelling and stiffness of his right knee. He saw his family physician, and was treated with sulfamethoxypyridazine and penicillin with some improvement. A little later he began to have swelling in both ankles, feet and legs that responded to low-salt diet and diuretics. The swelling gradually increased, extending up into the scrotum, thighs, and back despite his eating a low-salt diet. He was admitted because of intractable edema.

He had been in good health until nine months before admission when he had an episode of swelling and pain in the left calf for which he was hospitalized for two weeks, and was instructed to wear an elastic stocking. The swelling only partially improved but never completely subsided.

The patient's father died at the age of 67 of a "stroke." His 60-year-old mother and three brothers were living and well. The patient had one child who was living and well. His wife died at the age of 32 of "kidney trouble."

He had a five-year history of badly infected and carious teeth. After consulting his physician he voluntarily dieted, and lost from about 200 to 170 pounds.

The patient's blood pressure was 130/90, pulse, 100; respiratory rate, 12; and weight, 185 pounds. He had an upper dental plate and several carious lower teeth. There was decreased fremitus in the right, lower chest with associated decrease in breath sounds. There was no dullness to percussion and no rales were heard. There was a late, rough, systolic murmur in the third and fourth left intercostal spaces. The liver was palpable 2.5 cm. below the right costal margin. Except for pitting edema to the level of the

11th thoracic vertebral spine the remainder of the physical examination was not remarkable.

The reaction of the urine was alkaline; specific gravity, 1.009; albumin, 4 plus; sugar, negative; and the microscopic examination showed innumerable bacteria. On a repeat urinalysis the specific gravity was 1.012; albumin, 4 plus; and many red cells and a few pus cells were seen in the microscopic examination. The leukocyte count was 6,000 with 81 per cent neutrophils, 14 per cent lymphocytes, 5 per cent monocytes. The hemoglobin was 14.8 Gm. per cent; hematocrit, 42 ml. per cent; and the platelet count was 306,000. The VDRL was nonreactive. The blood urea nitrogen was 14 mg. per cent, and the fasting blood sugar was 110 mg. per cent. The serum carbon dioxide was 23 mEq.; sodium, 138 mEq.; chloride, 5.1 mEq.; and potassium, 110 mEq. per liter. The serum albumin was 1.0 Gm. per cent; globulin 1.8 Gm. per cent; cholesterol, 115 mg. per cent. A urine culture grew out *Pseudomonas aeruginosa*. A repeat cholesterol was 900 mg. per cent with 57 per cent esters. The 24 hour quantitative urine albumin was 15.5 Gm. in 2,500 ml.

The patient was placed on a 1,000 mg. sodium, high-protein diet, and his medication included potassium solution, antacids, prednisone (80 mg. a day), and broad spectrum antibiotics (for his urinary tract infection). On the sixth hospital day bishydroxycoumarin was started and maintained in therapeutic range for 24 days. After 12 days on corticoids the patient had not had a diuretic response so they were discontinued. By the 22nd hospital day the patient reached a maximum weight of 192 pounds. In the next 10 days the weight dropped to 175 pounds, and thereafter stabilized at about 165 pounds. During the latter portion of his hospital stay he was given 20 mg. of nitrogen mustard in divided doses over a four-day period. He was discharged to his family doctor on a small dose of prednisone that was gradually tapered off, and a low-salt, high-protein diet.

He was readmitted on February 16, 1959, because

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of increasing edema. He had been on salt restriction, and had had a short course of chlorothiazide. His weight had varied between 181 pounds and 196 pounds.

His blood pressure was 150/80; pulse, 94; temperature, 98; weight, 189 pounds. The lungs were normal. There was a rough, late, systolic murmur at the left sternal border in the fifth interspace. There was no cardiomegaly. No abdominal organs were palpated. There was dullness to percussion in the flanks and shifting dullness, but no fluid wave was found. The penis and scrotum were edematous, and there was three-plus pitting edema over the sacrum and four-plus pitting edema of the legs and feet.

The urine was alkaline with a specific gravity of 1.017, 4 plus albumin, no sugar, 6-8 white cells, occasional red blood cells, 3-4 granular casts, and occasional hyaline casts. A repeat urinalysis showed 4 plus sugar, 4 plus albumin, many red and white blood cells, occasional hyaline casts, and many coarse and fine granular casts. The white count was 8,200 with a normal differential; hemoglobin, 10.8 Gm. per cent; hematocrit, 34 ml. per cent. The platelet count was 300,000. The blood urea nitrogen was 24 mg. per cent; glucose, 105 mg. per cent; carbon dioxide, 24; sodium, 143 mEq.; potassium, 4.7 mEq. per liter; albumin, 1.8 Gm. per cent; and globulin, 1.9 Gm. per cent. The serum cholesterol was 1,240 mg. per cent with 46 esters. The LE cell preparation was negative. Urine cultures were negative. The serum electrophoresis showed albumin, 12 per cent; alpha-1 globulin, 8 per cent; alpha-2 globulin, 53 per cent; beta globulin, 9 per cent; and gamma globulin, 18 per cent.

The patient was placed on a 500 mg. sodium, high-protein diet, and was given 500 mg. of chlorothiazide and 45 mEq. of potassium by mouth daily for three days. On this regimen he lost 14 pounds. A course of nitrogen mustard was given. On the 17th hospital day he was started on a regimen of 80 mg. of hydrocortisone a day, and this was given for 10 days during which time he gained back to 189 pounds. Four days later chlorothiazide was again started, and the patient diuresed copiously. He lost 40 pounds over a 20-day period. He was discharged from the hospital on a low-salt, high-protein diet, intermittent corticoid therapy, and a short course of chlorothiazide.

The patient was readmitted to the hospital January 31, 1962, because of increasing edema up to the waist of three weeks' duration. He had had an illness manifested by fever, malaise, cough and decreased urination four weeks before admission. He had been on a 500 mg. sodium, high-protein diet and hydrochlorothiazide.

His blood pressure was 140/80, and his pulse

rate was 80 and regular. He appeared somewhat pale and chronically ill. There were scattered basilar rales in the lungs posteriorly. There was a loud friction rub heard best in the left anterior axillary line that was maximal on expiration and coincident with the heart beat. No other murmurs were heard. There was organomegaly, and no fluid was noted in the abdomen. There was pitting edema of the lower extremities, including the genitalia, and a trace of edema over the buttocks. The deep tendon reflexes were somewhat hypoactive. The fingerprint sign was noted on the forehead. The prostate was described as hard and smooth.

The specific gravity of the urine was 1.009. There was 4 plus albumin but no sugar. On microscopic examination there were 10-15 white cells per high-power field and many bacteria. Many subsequent urinalyses contained variable numbers of granular and hyaline casts, microscopic hematuria, white cells up to 20 per high-power field, and 4 plus albumin. The white count was 7,700 with a normal differential; hemoglobin, 7.9 Gm.; hematocrit, 25 Gm. per cent. The blood urea nitrogen was 128 mg.; creatinine, 16.4 mg.; cholesterol, 475 mg.; and glucose, 105 mg. per cent. The carbon dioxide was 17.5 mEq.; sodium, 135 mEq.; potassium, 4.5 mEq.; chloride, 107 mEq.; calcium, 3.9 mEq.; and phosphorus, 6.4 mEq. per liter. The serum albumin was 2.0 Gm. per cent, and the globulin was 1.9 Gm. per cent. No bacteria grew on four urine cultures. Total lipids were 460 mg. per cent. The plasma volume was 60.5 ml. per Kg.; red blood cell volume, 16.3 ml. per Kg. The 24-hour urine albumin was 24 Gm. The 24-hour electrolytes were sodium, 19; potassium, 39; and chloride, 36.5 mEq.

The patient was put on a 500 mg. sodium, high-protein diet. He was given chlorthalidone, 100 mg. daily; spironolactone, 400 mg. daily; and aluminum hydroxide gel. His weight rose from 167 on admission to 179 by the 21st hospital day. He was given three units of packed red cells. He had increasing vomiting, especially after medications. This was only partially relieved by intramuscular prochlorperazine and chlorpromazine. During this time his blood urea nitrogen rose to 220 mg. per cent, and his creatinine to 30.4 per cent. The fluid intake was increased to 4,000 ml. daily for several days without any increased diuresis. He had increased muscle irritability. This was not controlled by intravenous calcium gluconate. One week before his death he felt somewhat better, and at that time the friction rub was no longer heard. A leave of absence from the hospital was arranged for the patient, and he went home on the 28th hospital day only to return because of extreme shortness of breath. On readmission he was breathing shallowly, and a gallop rhythm at 80 beats per minute

was heard. Despite the use of 3 ml. of nikethamide and vasopressors intramuscularly, the patient died two hours after his readmission.

Dr. Mahlon Delp (moderator): Are there any questions for Dr. Hostetler?

Mr. Hubert Bell (student):* Was there any history of exposure to trimethadione or heavy metals?

Dr. Theodore G. Hostetler (resident in medicine): No there was not.

Mr. Robert Cook (student): Was there an episode of acute pharyngitis described any time during the first admission?

Dr. Hostetler: No.

Mr. Charles Eisenbeis (student): Was the liver tender on the first admission?

Dr. Hostetler: It was not.

Miss Johnita Forssberg (student): Was hepatomegaly noted by more than one examiner?

Dr. Hostetler: Severe hepatomegaly was not a feature, but it was noted by several examiners.

Mr. Bell: Was there a history of generalized skin rash or mucous patches?

Dr. Hostetler: The only time that there was ever a skin rash was following the first blood transfusion during the third admission.

Mr. Cook: Was there a history of chest pain at any time?

Dr. Hostetler: No, there was not.

Mr. Eisenbeis: When was the repeat cholesterol done, and what was the time relationship to the first admission?

Dr. Hostetler: He had several cholesterols. I am not certain of the exact date, but they were probably within a week of each other.

Miss Forssberg: Could we have a further description of the complaint regarding his knee before his first admission. Was it hot?

Dr. Hostetler: It was not hot. It was described as stiff and somewhat swollen.

Mr. Bell: Did this patient have any varicose veins on his lower extremities, or were there any sign of deep vein thrombosis?

Dr. Hostetler: There was no description of any inflammation or any mention of Homan's sign on any of the admissions.

Mr. Cook: What medication was the patient sent home on after the third admission?

Dr. Hostetler: He was given something for nausea and 60 mg. of phenobarbital to be taken three times a day.

Mr. Eisenbeis: Were dilated abdominal veins ever noted?

Dr. Hostetler: No.

Miss Forssberg: Can we have a further description regarding the grade and character of the heart murmur on the first admission?

Dr. Hostetler: The murmur is listed on the protocol as it was described on the chart. When he was seen on the third admission, we listened to his heart, and he said, "Oh, you are looking for my friction rub?" He evidently knew that he had a friction rub, but it was not described as such on the previous admission. It was described as a harsh systolic murmur along the left sternal border.

Dr. Delp: We think that that might have been a friction rub when he first came in.

Mr. Bell: Is there any history of an acute episode of abdominal or loin pain?

Dr. Hostetler: On the first admission he complained of pain in the right groin. It was not considered to be significant by those who saw him at that time.

Dr. Delp: Did he have edema of the muscles in the back at that time, Dr. Hostetler?

Dr. Hostetler: It is not listed on the chart, and I do not know for sure.

Mr. Cook: Did he have a fever at any time during the hospital course?

Dr. Hostetler: None was ever charted.

Mr. Eisenbeis: Do you have a weight on his final admission?

Dr. Hostetler: His admission weight was 157 pounds, and he reached a maximum of around 190-195.

Dr. Delp: Do you recall his weight on the last admission? I think there is nothing in the chart about that.

Dr. Hostetler: His initial weight on the last admission was 157.

Dr. Delp: Does anyone have any questions concerning this patient? All right, let us see the electrocardiograms, Mr. Eisenbeis.

Electrocardiograms

Mr. Eisenbeis: The electrocardiogram was taken on his first admission, July 29, 1958. We see a rate of approximately 100, a normal sinus rhythm, normal progression of the R waves across the precordial leads, and normal upright P waves throughout. My impression is that this tracing is essentially normal.

The second electrocardiogram was taken on September 22, 1959, on the third admission. Again we find a rate of approximately 75, normal sinus rhythm, normal progression of R waves, and the P waves are upright. This is an essentially normal electrocardiogram. In the tracing taken on March 1, 1959, there is again a normal sinus rhythm, a rate of approximately 100, normal progression of R waves across

* Although a student at the time of the conference in March, 1962, he, like the others referred to as students, received the M.D. degree in June, 1962.

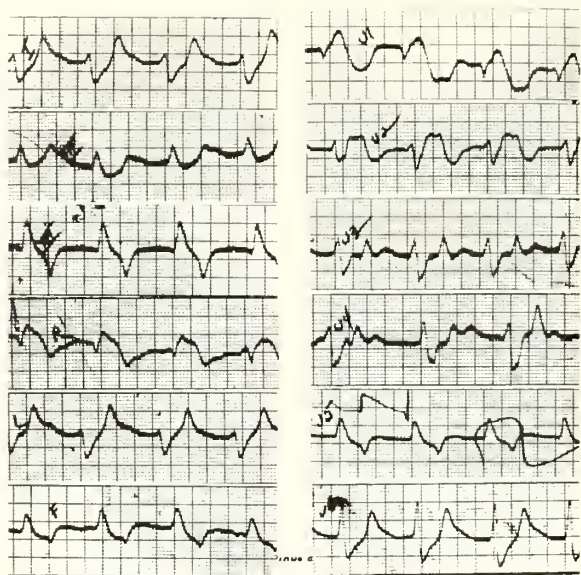


Figure 1. Electrocardiogram made during the patient's last admission.

the precordium, and upright P waves. Again I call this an essentially normal electrocardiogram. A tracing taken on March 10, 1962, during his last admission, shows no atrial activity whatsoever (Figure 1). There are widened QRS complexes, markedly depressed S-T segments, markedly elevated T waves throughout, and the appearance of some U waves. Of particular interest is a merging of the QRS-T segments and high elevated T waves into the classic biphasic wave of hyperpotasemia.

Dr. Delp: Thank you. May we have the x-rays now?

X-rays

Mr. Cook: A chest film taken on the first admission in July, 1958, shows no bony abnormalities. The lung fields are essentially clear. The costophrenic angles are clear, and the heart size is essentially normal. I interpret this as a normal P-A of the chest. Its most striking feature of the five-minute intravenous pyelogram, taken at that same time, is the ground glass appearance of the whole abdomen (Figure 2) shadows. I thought that I could make out the psoas shadows, but they are certainly obscure. The right kidney shows function, with dye coursing down the ureter to the bladder. There is very little calyceal outline seen on the left kidney, but much less than on the right. The left kidney appears to be somewhat enlarged. The bladder appears relatively smooth. In the 15-minute film the bladder is fairly well filled. There is no renal function visible at this time, and the psoas shadows again are obscure. The kidney outline is not visible. I do not see the edge of the liver,

nor do I see the spleen. I interpret these intravenous pyelograms as showing possible decreased function and generalized haziness suggestive of ascites. The chest film taken on the second admission in 1959 shows the costophrenic angles to be clear. There is no definite cardiomegaly. The hilar shadow is not notably increased in width. The lung fields are essentially clear with the exception of the right base where there is a rather large, well delineated infiltration. There is no bony abnormality. There is no deviation of the trachea. The findings remain essentially unchanged in a chest film that was made on his last admission. The technic is a good deal different. There is a suggestion of cardiomegaly, but not of a size sufficient for me to make a definite diagnosis. The mass seen in the right lower base, the infiltration, is somewhat reduced in density, although there is suggestion of fibrosis in this area. These two films, taken together, lead me to no diagnosis of the mass in the right base. It suggests possible pulmonary embolus with resulting fibrosis, but I will not stick to this very definitely. This is a film of the hands taken on the last admission. There is no joint abnormality, and I interpret this film as showing generalized osteoporosis.

Dr. Delp: Thank you, Mr. Cook. Dr. Agnew, do you have any comments about these films?

Dr. Colvin H. Agnew (radiologist): No.

Mr. Cook: I forgot to mention it, but in the last



Figure 2. Five-minute intravenous pyelogram made during the patient's first admission.

chest film there is a little bit of fluid in the right base, but not much.

Dr. Delp: Thank you, Cook. All right, Miss Forssberg, may we have your discussion?

Miss Forssberg: The patient for our consideration today first entered the hospital with a conspicuous nephrotic syndrome, manifested by the characteristic tetrad of edema, albuminuria, hypoproteinemia, and hyperlipemia. A brief discussion of the numerous and varied etiologies of this syndrome is in order before an attempt to consider the clinical course in this 40-year-old man whose renal disease progressed to renal failure and terminated in a cardio-respiratory death. The nephrotic syndrome secondary to heavy metals, poison oak, snake bite, and tridriols can be excluded due to the lack of history. Classic lipoid or childhood nephrosis is automatically excluded by the age of the patient. Secondary syphilis is ruled out on the basis of a negative serology or other symptoms or history of syphilis.

At clinical pathological conferences one must always consider the collagen disorders; in our case chiefly lupus erythematosus and periarteritis nodosa. The negative LE cell preparation, the age and sex of the patient, and the lack of increased gamma globulin seem to rule out lupus erythematosus. The absence of hypertension is also against collagen disorders. The history of chronic dental caries and normal blood pressure make secondary amyloid disease a plausible diagnosis. Primary amyloid disease of the kidney must also be included for completeness. Some authors state that a very large percentage of cases of the nephrotic syndrome in patients over the age of 20 is due to amyloid disease. This is unlikely in our patient because of the absence of hepatosplenomegaly. The nephrotic syndrome of amyloid disease characteristically has low serum cholesterol levels (not lower than normal, but in the low ranges), and hematuria is rarely present. The renal complication of diabetes mellitus, the Kimmestiel-Wilson kidney, may present with the nephrotic syndrome. Some authors have reported cases of this etiology when the diabetes was not otherwise clinically overt. The borderline level of fasting blood sugar, the obesity, and the possible glycosuria on one occasion support this diagnosis in our patient, but the diagnosis is unlikely, because 80 per cent of the patients with the Kimmelstiel-Wilson kidney are hypertensive, and ours was normotensive.

Next we consider a group of conditions which may be associated with massive proteinuria secondary to renal vein obstruction, leading to increased renal venous pressure, and then the development of the nephrotic syndrome with primarily tubular damage. Constrictive pericarditis with its right heart failure could present in this fashion, but it is readily ruled out because there were no other cardiac or x-ray find-

ings. A retroperitoneal mass causing mechanical obstruction of the renal vein is also a possibility. In the absence of a palpable abdominal mass or any definite x-ray finding, or any associated signs compatible with a lymphoma, Hodgkin's disease, or sarcoma, we tend to rule this out. The clinical course is also unlikely for a primary neoplasm.

Bilateral or unilateral renal vein thrombosis can most certainly present as the nephrotic syndrome. An acute thrombosis can easily be excluded on the basis of history of the characteristic type of pain, fever, leukocytosis, and a palpable kidney. A number of cases attributable to chronic insidious renal vein thrombosis parallel our patient's course quite closely. It could explain our patient's early course. Strongly in favor are the episodes of palpable thrombophlebitis six and maybe nine months before his first admission, and the consistent pattern of the lower trunk and lower extremity edema. The important feature of dilated abdominal veins or evident collateral circulation is conspicuously absent in this patient. The four-year course is considerably longer than any we have found reported. These patients frequently have numerous pulmonary emboli, and this is often the cause of their demise. In addition, renal vein thrombosis is an attractive clinical pathological conference diagnosis. We cannot totally rule it out. We feel, however, that renal vein thrombosis is still unlikely as a cause of our patient's nephrotic syndrome.

If we exclude the childhood lipoid nephrosis, chronic glomerulonephritis is the most common single cause of the nephrotic syndrome. We can state that more than one half of the patients with chronic glomerulonephritis give no history of an acute episode of nephritis. These patients, if the disease continues, pass into the so-called sclerotic phase of their disease which is then indistinguishable from chronic glomerulonephritis. When the disease has progressed to the point of partial renal decompensation, such patients may present with the classic picture of the nephrotic syndrome, their edema and proteinuria being the first evidence of any renal disease. The onset is usually insidious, and is marked by remissions and exacerbations such as did occur in our patient. They ultimately reach a state of final renal failure with uremia. The time interval is variable, usually from three to as long as 20 years. Urinalyses of our patient are in support of this diagnosis, with the presence of red cells early and the development later of hyaline and granular casts. Hypertension is often present in these patients, but the fact that our patient was normotensive does not militate against the diagnosis, because as many as 30 per cent of patients with the nephrotic syndrome of chronic glomerulonephritis are normotensive in some series.

In summary, this patient's clinical course may best

be explained by the insidious development of chronic glomerulonephritis, existing for an unknown period of time preceding his first admission. A full-blown nephrotic syndrome was precipitated by an associated low-grade infection, perhaps related to his dental extraction, at which time edema became the prominent external manifestation of his renal disease. The edema was secondary to the albuminuria, which resulted in his hypoalbuminemia and sodium retention. His edema responded early to diuretic therapy, but later it became more-or-less refractory. He evidently did have some remissions of his symptoms at times. We followed this patient through a four-year course of progressive renal involvement, manifested by the azotemia and urinary sediment studies. On his last hospital admission he presented with the manifestations of uremic pericarditis. His blood urea nitrogen continued to rise, and mild acidosis developed. This time his edema was refractory to therapy. His urinary output diminished, and he developed further signs of azotemia. Tetany developed secondary to elevated serum phosphorus and decreased serum calcium. His symptoms decreased sufficiently to allow a home visit, only to return with marked dyspnea, hypotension, and cardiac failure. It is most likely his acute heart failure was secondary to hyperkalemia, as evidenced by the electrocardiogram. It is also compatible clinically with a large pulmonary embolus. His final course was quite typical of an end-stage kidney (regardless of its etiology) with terminal azotemia, and cardio-respiratory death.

Dr. Delp: Thank you, Miss Forssberg. Mr. Bell, what is your diagnosis?

Mr. Bell: My first diagnosis is chronic glomerulonephritis. My secondary diagnosis would be renal vein thrombosis.

Mr. Cook: My primary diagnosis is chronic glomerulonephritis. My secondary diagnosis would be amyloidosis.

Mr. Eisenbeis: My diagnosis is chronic glomerulonephritis. My secondary diagnosis would be amyloidosis.

Miss Forssberg: My second diagnosis would be renal vein thrombosis.

Dr. Delp: Now, a few questions. This patient received a lot of penicillin. I know not what other antibiotic, but he apparently received a sulfa compound of some sort. Any comments?

Mr. Bell: The nephrotic syndrome may occur as a rare complication of penicillin therapy. I feel that this is very unlikely. As for the sulfa medication, this particular drug is unique in its lack of renal toxicity, and is nowhere reported in the literature as causing the nephrotic syndrome.

Mr. Cook: I agree. I feel that it is quite possible that this man had been taking antibiotics previously

without our knowledge, and the amounts here imply that the course of this might have been considerably altered. He may well have had an allergy.

Mr. Eisenbeis: I do not believe it is related because, if one has been taking continuous penicillin without any history of a reaction to it, I do not think it would have this effect.

Dr. Delp: Mr. Bell, what about the significance of the carious teeth and the extractions of these teeth? The man seemed to be in pretty good health, except he had bad teeth?

Mr. Bell: There are two possibilities that come to mind. First of all, he could conceivably have had a streptococcal infection due to a dental abscess that could have been the starting point of glomerulonephritis. I felt this was very unlikely, because beta hemolytic strep is rarely implicated. The second possibility is that he could have had amyloidosis due to a prolonged chronic infection. I believe, however, that this is extremely unlikely unless he also had osteomyelitis of the maxilla.

Mr. Eisenbeis: I really think that it is unrelated; however, there is a possibility that the chronic infection of teeth may have caused exacerbation of the renal disease.

Dr. Delp: What about the swollen right knee? This seemed to be the second thing that happened to him. Do you have any comments about it, Mr. Bell?

Mr. Bell: The swollen right knee apparently was not painful or red. If it had been red and hot and painful we would think more strongly of collagen disease. As it is, I interpret it merely as an expression of his edema.

Mr. Cook: The collagen disease possibility disturbed us, but I found no other evidence. It is stated many times in the literature that the edema of chronic glomerulonephritis can appear anywhere.

Mr. Eisenbeis: I believe it could be a manifestation of his edema, but I would also expect pain with edema in the joint capsule.

Dr. Delp: Mr. Bell, it was reported that this man's blood pressure was 130/90. Is that worthy of comment from you?

Mr. Bell: As Miss Forssberg pointed out, even terminal hypertension is not necessarily common in chronic glomerulonephritis. In only six out of 16 cases of chronic glomerulonephritis in one series were the patients terminally hypertensive. I do not think this takes anything away from our diagnosis. The ones I have personally seen were hypertensive, but the literature points out that this is not necessarily so.

Mr. Cook: The patients that I have seen—not very many—have had a slight degree of hypertension which would be quite variable at times, and I am not impressed by this lack of hypertension.

Mr. Eisenbeis: I, too, would like to see hyper-

tension, but the literature has me convinced that I do not have to.

Dr. Delp: Mr. Bell, you saw the intravenous pyelograms. How do you reconcile them with the diagnosis you have? How did it influence your differential diagnosis?

Mr. Bell: The picture of the intravenous pyelogram that was shown is quite compatible with the diagnosis of chronic glomerulonephritis.

Mr. Cook: These were taken on the first admission of the patient, and at that time he did not have clinical or laboratory evidence of renal failure as such, so I would not expect it to show very much, and indeed I cannot say that it did show much because of the appearance of the abdomen. I cannot say that these are really abnormal pyelograms.

Miss Forssberg: We could postulate that there is a diminished function on one side with the possible increase in size of that kidney that would be compatible with a unilateral renal vein thrombosis.

Dr. Delp: Now, I would like to call on Dr. Manning and Dr. Brown.

Dr. Robert T. Manning (internist): While reviewing the protocol I was struck by the lack of hypertension. The panel has been struck in a negative sense by the lack of hypertension. I think, particularly in view of the patient's demise, that in uremia this is a rather unusual finding for glomerulonephritis. Because of the persistence of a normal blood pressure in the face of progressive renal failure, I think it most likely that the patient had renal amyloidosis. In addition to these findings, he had a rather amazing elevation of alpha-2 globulin on the electrophoresis. This is quite compatible with the diagnosis of amyloidosis. In fact, it would be one diagnosis that would come to my mind if I would see such a pattern and knew nothing about the patient. Although this elevation of globulins in the nephrotic syndrome in general occurs, this much of alpha-2 would make me think quite strongly of amyloidosis. In addition, two facts which arise in "CPC-manship": This would appear to be a V.A. case, and the chief of their service seems to have a propensity for collecting patients with amyloidosis. That influenced my diagnosis also.

Dr. Robert W. Brown (internist): My diagnosis agrees with what the students gave—chronic glomerulonephritis. This was influenced by something that I think has not been emphasized in the protocol: this man's wife died at the age of 32 with kidney trouble. She actually died three weeks before he got sick with acute glomerulonephritis, and I am pretty sure he had a sore throat then. I must have read that into the history. At any rate, I thought he had glomerulonephritis. He gave a history which was not incompatible with it, certainly, and his wife

actually did have acute glomerulonephritis, and died within 30 days of the time she developed the disease. I first saw this man on his second hospital admission, at which time he was a classic patient with nephrotic syndrome, and our efforts were really spent trying to get him edema-free. One other thing that is unusual is that, after he went home, the man was really quite well even although he had to take medicine to control the edema. He felt perfectly all right; returned to work; and even remarried. I was quite content with the diagnosis; and, incidentally, it is not the right diagnosis, as I suspect you have guessed. The diagnosis had been mentioned two or three times in our conferences, and I think the residents who first took care of the patient strongly considered the true etiology of this nephrotic syndrome. I would agree, and I would emphasize that the absence of hypertension is important clinically. The nephrotic syndrome in diabetes is not synonymous with the Kimmelstiel-Wilson. You will see the nephrotic syndrome in diabetes which is not end-stage kidney disease; it is early kidney disease in the diabetic.

Dr. Delp: I would like to have a couple of other quick comments. Dr. Bolinger, do you have any remarks about the chemistry reported here, or about this blood pressure of 130/90?

Dr. Robert E. Bolinger (internist): No, I would just have to agree with what Dr. Manning said on that. I was very impressed with this absence of elevation of the blood pressure. The chemistries, I think, are just mostly consistent with terminal kidney disease. The elevation reported in the lipids is quite striking and, I believe, probably would explain the electrophoretic findings, as Dr. Manning already mentioned.

Dr. Delp: Do those pyelograms mean anything to you? They were taken early in the patient's hospital course.

Dr. Bolinger: The only other condition which you commonly consider with a renal failure without hypertension is a polycystic kidney, and I think the pyelograms help exclude that.

Dr. Delp: Dr. Agnew, did you notice anything unusual about those pyelograms?

Dr. Agnew: No, I thought there was an awful long distance from the calyx to the upper pole of the kidney. There was bilateral secretion, but not a very good architectural pattern on the left.

Pathology Report

Dr. Thomas J. Fritzlen (pathologist): I will discuss the general autopsy findings first and then the renal lesions. The body was that of a well-developed and very pale white man about 40 years old with edema of the lower trunk and of the legs. The abdomen contained 1,500 ml. of straw-colored fluid;

the right pleural space, 600 ml.; the left pleural space, 400 ml.; and the pericardial space, 30 ml. The heart was enlarged, dilated, and weighed 490 grams. The myocardium was flabby, but without evidence of old or recent infarction. There was generalized atherosclerosis of moderate degree. The anterior basal segment of the right lung had an organized infarct. The periprostatic veins contained moderate amounts of recent thrombus, but no recent pulmonary emboli were demonstrated. Two small organized infarcts were noted in the spleen. There was moderate secondary hyperplasia of the parathyroid glands. There was moderate congestion of the lungs and liver.

The kidneys weighed 160 grams each, had minimal granularity of the capsular surface, and on cut section had striking pallor of the cortices. The cortices were only slightly thinned, the corticomedullary junctions were distinct, and the medullae were moderately congested.

The striking finding of the autopsy was organized and recanalized thrombosis of the renal veins from their orifices at the vena cava to their branches entering renal parenchyma (*Figure 3*). At the vena

cava the renal vein orifices presented a cribriform and endothelial covered mesh-like appearance with no changes of any sort within the cava itself. The left adrenal and left spermatic veins entered the left renal vein in the normal manner, and no changes could be found grossly or microscopically in these veins or in the left adrenal or left testis.

The kidneys showed a number of microscopic changes. All glomeruli showed varying degrees of hyaline change with material in the glomerular capillary walls appearing between the endothelium and epithelium. Occasional adhesions were seen in glomeruli. There was striking tubular atrophy, with the remaining tubules varying from fairly normal to markedly dilated (*Figure 4*). Diffuse lymphocytic infiltrate and fibrosis of the interstitial tissues were observed. A few tubular casts and a few areas of old hemorrhage at the corticomedullary junction were seen. The renal vessels within the kidney showed no changes except, possibly, some dilatation.

Histologic study of the renal veins confirmed the gross observation of organized and recanalized thrombosis. This is not an unusually rare disease of adults, although we more often think of it in febrile, dehydrated infants. At Montifiore Hospital in New



Figure 3. Photomicrograph of right renal vein with organized and recanalized thrombosis $\times 100$ (vein wall is lower part of picture).

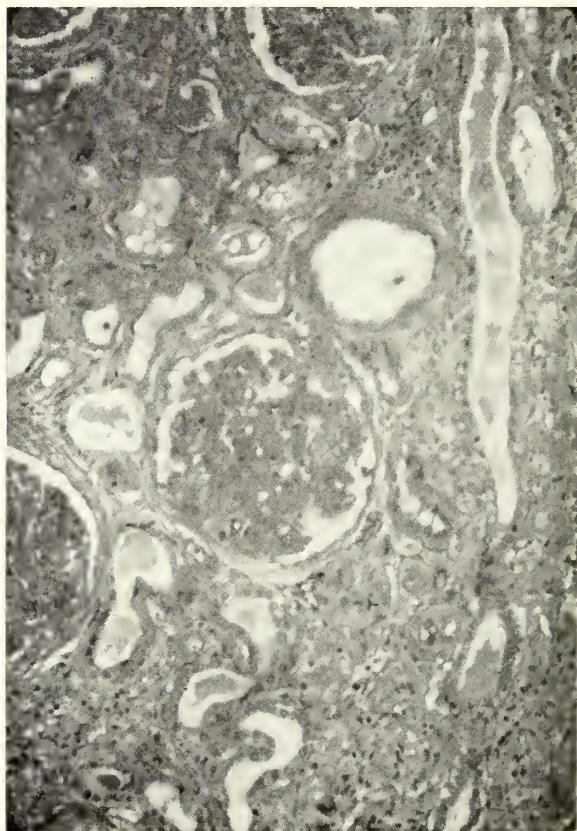


Figure 4. Photomicrograph of right kidney.

York, six cases were collected in approximately eight years. Renal vein thrombosis in adults is often found in association with diabetes or neoplasms. A few cases apparently occurred spontaneously and acutely, with sudden onset of flank pain; others somewhat more insidiously. The first report in the English literature was in 1939 by Darrow. One report, of at least great historical interest, was by Shattuck in 1913 reporting the case of Dr. W. Riders Pollack who had run the Oxford-Cambridge track meet 120-yard hurdles in the then record time of 16 seconds. He held his breath all the way, apparently produced the equivalent of a dissecting aneurysm of the inferior vena cava, had severe flank pain at the end of the race, went to bed, became edematous, and for the rest of his 25 years of life had proteinuria. The autopsy disclosed obliteration of the vena cava and the renal veins, apparently by old thrombus. Research in this area dates back to work by George Robinson in 1843 in England, who occluded the renal veins of rats. German workers in the 1870's were ligating renal veins and taking serial follow-ups of the rabbit kidney. In these experiments, and in adult patients with a reasonably prolonged course, there has been the constant observation of progressive tubular atrophy no matter what the mechanism of the renal vein obstruction. When the obstruction is maintained for long periods, glomerulosclerosis occurs and the terminus is renal failure without hypertension. The case under discussion presents all of these features.

Children have hemorrhagic infarctions of the kidneys and die rather promptly. In adults, the course is frequently more insidious and milder. Collateral circulation may develop and long survival is recorded. The patients who go on to renal failure usually succumb within 15 to 18 months. This case is unusual because of the extremely long survival—three years.

Dr. Delp: Thank you, Dr. Fritzlen. Dr. Brown do you have any retrospective comments you would like to make after having made the improper initial diagnosis?

Dr. Brown: The diagnosis could have been made and should have been made. It is just a matter of putting the various factors together. As a matter of fact, this man does give a pretty straightforward history. He did have tender legs. He did have thrombophlebitis and, as a matter of fact, one doctor told him before he ever got to the hospital that he had renal vein thrombosis. It is just a matter of how you interpret the facts in the clinical course. One has to constantly re-evaluate things anew in order to get a better picture of what is actually occurring in cases like this.

Dr. Delp: Dr. Brown has already mentioned some of the things that should alert us to this diagnosis. I

am sure that I would not have made the diagnosis because, in most instances, it should be the appearance of something similar to the nephrotic syndrome in a patient that you would not really expect to have renal disease or a nephrotic syndrome. I think another thing that might alert you is if an individual had some thrombotic process going on; and I will admit that there is something in this patient's history to suggest this, mainly that he did have a thrombophlebitis which now, at this late date, we certainly cannot establish. I am not sure what the alteration in blood pressure actually means here, but I think it again would be something that weakens the diagnosis of acute glomerulonephritis. The irrevocable progress of these cases, I think, is most noteworthy. Most patients with the nephrotic syndrome from acute glomerulonephritis have some remissions, even short and as discouraging as they really are. This man had remissions which lasted only, I think, until a few days after he had left the hospital. He did improve very shortly, but it is still an extremely difficult diagnosis to make, and I think it is kind of accidental when we do. This should not restrain us from trying to do this academic exercise of nailing it down if possible.

Primary Diagnoses

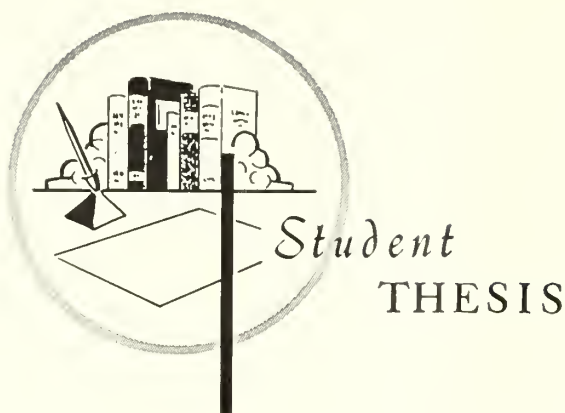
1. Organized and recanalized thrombosis of right and left renal veins with:
 - a. Secondary renal tubular atrophy.
 - b. Secondary glomerulosclerosis.
 - c. Dilatation of all chambers of heart with acute passive congestion of lungs and liver.
 - d. Edema of legs and trunk.
 - e. Ascites and hydrothorax.
 - f. Secondary hyperplasia of parathyroid glands.

Accessory Diagnoses

1. Atherosclerosis, generalized, moderate.
2. Old infarction involving anterior basal segment of lower lobe of right lung.
3. Edentia of upper jaw.
4. Focal thrombosis of periprostatic veins, recent.
5. Healed infarcts of spleen.

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An Implantable Pacemaker With Automatic Rate Regulation

CHARLES HENNING, M.D., *Wichita*

THE OBJECT of this work is to develop an implantable self-contained cardiac pacemaker which regulates its rate automatically as a function of exercise. This device uses action potential of the diaphragm muscle as the index to activity of the patient. The unit is adjusted at the time of operation for a baseline and amount of rate increase with increased respiratory effort. Necessity for increase in rate to obtain increased cardiac output has been demonstrated by artificial stimulation of a blocked dog heart by Weirich et al. It has been demonstrated that artificial stimulation of the atrium reproduces ventricular response similar to that of the normal dog as measured by reduction of left ventricular diameter. However, the accumulated stroke work and elevation of left ventricular pressure are not as great as in the normal heart during exercise. This difference could be accounted for on the basis of decreased venous return of the anesthetized dog.

As a general review, three types of pacemakers have previously been used which were capable of variable pacing rates. First, the external pacemaker is readily suitable for adjustment of rate by a control on the pacemaker unit itself. This unit requires, however, that electrodes penetrate the skin, and the problem of infection is always present. Changing of batteries and of regulation of the rate make this device

suitable for experimental use and short term pacing in the human, but it has not been used widely for long term therapy of such diseases as Stokes-Adams Syndrome.

A second type is that such as used by Glenn, Mauro and Eisenberg. This unit is adjustable for pulse rate, as well as threshold and has the advantage of no wires penetrating the skin. It consists of a self-contained transistorized transmitter with the tank circuit of the output transistor being a large coil placed directly over the skin. A pick-up coil is mounted subcutaneously with electrodes leading to the heart. The coil is tuned by means of a capacitor and a silicon diode is used to rectify radio frequency pulse voltage for stimulating the myocardium.

A third type of regulatable pacemaker is the type described by Kantrowitz. This device is composed of a NPN and a PNP transistor connected in a positive feed back configuration and used as a free running relaxation oscillator. The implantable unit has a baseline rate usually adjusted at 65-70 beats per minute. An induction coil within the case of the implanted pacemaker is probably connected by means of a diode and capacitor to the base of one of the transistors. When a radiofrequency pulse is delivered to the induction coil the relaxation oscillator is triggered and a pulse delivered to the myocardium; it is possible to trigger the circuit faster than its normal rate up to 120 beats per minute as used in the human. This triggering pulse is delivered by a transmitter which is a self contained unit with an antenna connected by means of a short cable. The antenna is placed directly over the pacemaker and the rate adjustment on the transmitter is set for the desired pacing rate. This

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This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Henning completed his internship at Wesley Hospital, Wichita, Kansas and is now serving in the U. S. Air Force.

has the advantage of having no wires penetrating the skin, a battery life of the implanted unit of 45,000 hours or over five years at a pacing rate of 60 to 70 per minute. The batteries of the external unit can be readily changed.

An experimental type of implantable cardiac pacemaker is the synchronous cardiac pacemaker described by Keller et al. In this unit, the P wave from the atrium is amplified, delayed, and used to stimulate a stable multivibrator above its normal rate of 55 per minute. Above a rate of 110, the pacemaker produces a 2 to 1 pacemaker block, the pacemaker rate thus rising to 110 with an atrial rate of 110 and then falling to 55 and increasing at half the rate of the atrium above an atrial rate of 110.

A fifth method of pacing the heart is that used by Ernst. In this procedure, the sinoatrial node is excised from the right atrial wall with its nutrient artery intact, leaving the pedicle attached at the atrial-ventricular groove. A sub-epicardial tunnel over the right ventricle nearest to the graft is made through which the graft is passed. When at a later operation A-V conduction is blocked by a suture, the ventricular rate remains unchanged. A-V block is noted after removal of the transplanted S-A node.

The unit to be described is a self-contained implantable cardiac pacemaker which regulates its rate automatically on exercise of the animal, requires no external adjustment, and the entire unit including the rate increase mechanism is implanted in one unit. For purposes of this experiment, a small F-M transmitter was included with the implanted pacemaker to increase the ease of monitoring the rate of the pacemaker.

A general description of the unit follows. The pacemaker unit itself is the circuit developed by General Electric and used by Dr. Adrian Kantrowitz. The circuit of this basic pacemaker has been previously published.

The circuit is modified in two ways, the output pulse is taken through an isolation transformer, having a primary and secondary impedance of 600 ohms, and the timing resistor, R_1 , is connected to the output of the rate increase integrator rather than to the negative pole of the battery. When either the value of R_1 or the potential at the battery end of R_1 is varied, the rate of free running oscillator is proportionately varied. The mechanism by which the potential of the battery end of R_1 is varied is as follows: A five-stage amplifier consisting of an emitter follower to obtain a high impedance input, three stages of grounded emitter voltage amplification, and a fifth emitter follower pulse integrator is used. The input to the amplifier is connected by means of a coaxial electrode to a belly of the muscle on the right anterior aspect of the thoracic surface of the diaphragm. This electrode picks up the action potential of the diaphragm

muscle. This action potential is amplified by means of the amplifier and the output pulses are integrated in the fifth stage. The direct current potential is proportional to both the frequency and the amplitude of the diaphragm action potential. This potential, which is negative with respect to ground, is directly connected to the battery end of R_1 . Now, with increase in the action potential of the diaphragm, which occurs with increasing respiratory effort accompanying exercise or occlusion of the endotracheal tube at operation, an increased direct current potential appears at the output of the fifth stage or pulse integrator, and an increasingly negative potential is delivered to the battery end of R_1 of the basic pacemaker. As this potential becomes increasingly negative, the rate of oscillation of the pacemaker increases. To obtain isolation of the input of the amplifier and the output of the pacemaker, the transformer previously described is used in the output of the pacemaker.

A F-M transmitter for use of monitoring the rate of the pacemaker is connected and permits monitoring of the pacemaker rate after implantation in the animal, without connecting wires to the animal. Two adjustments are present on the pacemaker unit which must be set at the time of operation. One is a baseline rate control in which R_1 is composed of both a fixed resistor and a potentiometer, so that the baseline rate can be adjusted to approximately 110 to 120 beats per minute. The second control is a rate increase control which is analogous to the volume control on a phonograph. The amount of rate increase with a given contraction effort of the diaphragm can thus be adjusted. Once these controls are adjusted at the time of operation, they should require no further adjustment.

The unit as described was enclosed in a fiberglass housing. The implantation procedure is of a standard type, the pacemaker being mounted in a subcutaneous pouch of the abdomen, the wires being tunneled subcutaneously to the edge of the thoracic incision. The diaphragm electrode is connected and sutured in place with 3-0 silk. The myocardial wires are then sutured to the right ventricular myocardium near the base. A complete A-V block is obtained by a cauterization method. A probe is introduced into the right atrium 1 cm. above the level of the coronary sinus. The probe is pressed against the posterior medial right atrial wall, and when placement is proper an A-V conduction defect will be seen to occur. The multiple electrodes are then pressed into the right atrial wall directly beneath the probe and the area is cauterized. The method has the advantages of being simple and quick. It can be performed with a minimum of blood loss and little chance of air embolization. The pacemaker wires are shorted during the blocking procedure to aid in recognition of a block. The pacemaker

wires can be shorted at any subsequent time to determine that a block still exists.

Electrocardiographs were made showing preoperative, post block, and pacemaker tracings. The high rate of 168 preoperatively was assumed to be a normal tachycardia observed in Nembutal anesthesia. The pacemaker is adjusted for a baseline rate of 125 beats per minute. When the endotracheal tube was occluded, a rate increase to 158 per minute was observed. Approximately three minutes after the airway was again opened, a cardiac rate of 118 to 120 beats per minute was observed. It was noted that there was a suggestion of the normal drop in cardiac rate below the baseline figure observed two to three minutes after a customary 50 step exercise tolerance test.

Six days postoperatively, the following results were obtained. The baseline rate of 140 beats per minute was observed with the dog lying quietly for a period of more than ten minutes. When the dog's attention was obtained, and during petting the dog, the baseline rate fell to approximately 130 beats per minute. When the dog was urged to trot as fast as possible for a distance of approximately 150 feet, and immediately return to the room for measurement of the heart rate, the rate was found to be 210 beats per minute. The rate did not fall for approximately four to five minutes after the exercise was stopped, the rate being sustained by the panting of the dog.

The increase of the baseline rate from 120 to 140 beats per minute is explained on the basis that the pacemaker was at room temperature during adjustment at the time of operation. During the 24-hour period before the first measurement was again made, by means of the enclosed F-M transmitter and simultaneous electrocardiogram, the pacemaker equilibrated to body temperature. It has subsequently been observed that the voltage gain of the amplifiers constructed like the one in this pacemaker are quite sensitive to temperature. The parameters of a transistor amplifier of voltage gain, temperature stability, and current drain are all important in the design of this amplifier. The temperature stability requires a rigid

bias network and negative feedback. Both of these result in decreased voltage gain and increased current consumption.

It is now being undertaken to design an amplifier at 37 degrees Centigrade which will be adequately stable over a temperature range of three to five degrees Centigrade and have a current drain of approximately five per cent of the original unit. A second modification is the use of the Zenor diode to limit the amount of rate increase by limiting the voltage output from the fifth or integrator stage. The third modification is the use of a magnetically operated switch mounted on the subcutaneous side of the pacemaker and actuated by an externally placed permanent magnet. This switch is used to disengage the rate increase portion of the pacemaker during periods when diaphragm activity is increased but cardiac rate would normally not be increased, as in hiccoughs.

Summary

This article describes a self-contained implantable cardiac pacemaker which has an automatic rate increase feature. The rate increase is proportional to increased respiratory activity and requires no external control. The rate increase occurs within five seconds of increase in activity and persists for three to five minutes following cessation of exertion and approximately 20 seconds after cessation of diaphragm activity. The unit should have application for correction of complete A-V block, secondary to arteriosclerosis or iatrogenic causes and in correction of abnormally slow ventricular rates when atrial fibrillation is present constantly or intermittently. The unit gives a proportional increase in cardiac rate as the function of a diaphragm and body activity, and gives no sudden changes in rate, except that rate increase follows very quickly after increase in body activity and respiratory effort. It requires the use of no external rate controlling equipment or of any conscious effort on the part of the animal.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

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The President's Message

DEAR DOCTOR:

The public health department in Kansas has long been closely associated with the practice of medicine. They are developing a central theme which, simply stated, says that by 1980 the productive years of our lives should continue to 80 years of age. Thus, we get "Mr. 80 x 80" the cartoon character which you will soon see on television and hear on radio.

This concept was created by the State Department of Health in conjunction with the doctors of Kansas as something which every citizen has a right to achieve. Those areas in which medicine plays an active part should be sponsored by the local doctors and the public health department. We expect this to be a continuing program and one in which every doctor in this state could take pride.



Sincerely,

John C Mitchell, MD

President



Editorial COMMENT

The American Medical Association is governed by a House of Delegates. Each state medical society is authorized to elect a delegate to the A.M.A. to represent its membership. For every 1,000 members, each state has at least one delegate. A state in which there are 1,001 members of the A.M.A. is entitled to two delegates. With 2,001 A.M.A. members, a state is entitled to three.

The Kansas Medical Society, with 1,850 A.M.A. members, has two delegates. These are elected, one each year, by the House of Delegates of this state for two-year terms. Clyde W. Miller, M.D., of Wichita, is now serving his first term in this capacity. Lucien R. Pyle, M.D., of Topeka, is the other delegate.

A few days ago the American Medical Association sent us an analysis of the members of the House of Delegates which contained some information that appeared to be of interest. The total membership of the A.M.A. House of Delegates is 228. They represent their state medical associations and are engaged in a variety of areas of practice. Forty-nine, the largest single group, are in general practice; 41 are engaged in general surgery; 39 practice internal medicine; 21 specialize in obstetrics and gynecology, and 13 are engaged in administrative medicine. All other specialties are represented by fewer than ten. For example, there are seven orthopedists, seven pediatricians, and seven urologists. The remainder represent a total of 35 different specialties.

Twice each year, in June and in November, the A.M.A. House of Delegates convenes. A wide variety of resolutions are presented and, as in Kansas, they are referred to reference committees and at a later session are voted on by the delegates. These delibera-

tions, occupying almost the entire duration of the interim and the annual sessions of the A.M.A., create the policies of this organization.

1965 Annual Session

The Kansas Medical Society annual session will be held in Hutchinson, Kansas, May 10 through 13, 1965, at which time a new meeting format will be offered. This has been carefully studied and approved by the Council and will be tried for the first time next May.

The scientific program will begin at 10:00 a.m. each morning, and the afternoon session will conclude at 4:00 p.m. This will allow more time at the end of each day, and it is hoped will assure a larger attendance for the scientific papers. The final scientific event will consist of specialty meetings on Wednesday afternoon. It is hoped each specialty society in this state will plan to conduct a program at that time.

To assure attendance for the Wednesday afternoon specialty meetings, the annual banquet has been scheduled for Wednesday evening. This key point of the annual session will, in 1965, again present an outstanding program and will be concluded with a dance.

The Format Committee, in redesigning the schedule, has succeeded in avoiding conflicts between the business and the scientific events of the annual session. The House of Delegates will meet on Monday morning for breakfast, as in the past. The remainder of the day will be devoted to sports events and the

(Continued on page 567)



Blue Shield

Blue Shield Special Service Plan Under Experimentation In Riley and Geary Counties

A new Kansas Blue Shield program, to be known as the "Special Service Plan," will soon be the subject of experimentation in Riley and Geary Counties. Developed through cooperation between the local medical societies of these counties and Blue Shield, the plan is based upon the idea that it is both possible and practical to prepay the physician's customary professional fee for service without reference to either a formalized fee schedule or an income limit. It is, in simplest definition, a "pay charge" program.

Here's how it has been designed to work . . .

For most covered services, the customary fee of a physician participating in the plan will be paid in full. Only normal obstetrical delivery, anesthesia for obstetrical delivery, and in-hospital medical care for nervous/mental conditions are provided schedule allowances; and these services are not subject to Service Benefit conditions.

Participating Physicians under the Special Service Plan agree to two conditions: (1) that his charges to Blue Shield Special Service subscribers will be no different than his customary fees for similar services to other patients within his practice, and (2) that in cases of unusual charges, he will accept the adjudication of a Review Committee composed of physicians from within his own local area.

What Will Be Covered?

Services which will be paid at the Participating Physician's usual and customary charge are the following:

—SURGERY

- Cutting procedures presently listed in Schedules 1, 2, and 3.
- Sutures and fracture reductions.
- Endoscopies (except procto-sigmoidoscopy).
- Puncture aspirations of joints and body cavities.
- Needle biopsies of bones and internal soft organs.
- Initial emergency treatment of accidental injuries.

—ASSISTANT SURGERY (whenever needed in connection with covered surgery)

—ANESTHESIA (local and general in connection with covered surgery listed above)

—IN-HOSPITAL MEDICAL CARE

- Daily visits (120 days per admission or 30 days per contract year, depending on age, for all conditions except nervous mental diagnoses).
- Intensive Medical Care.

—IN-HOSPITAL CONSULTATIONS (for all conditions except nervous mental diagnoses, on basis of one per admission with additional consultations eligible for individual consideration)

—DIAGNOSTIC X-RAY (for *both* accident and non-accident conditions)

—RADIATION THERAPY (for cancer and surgically inaccessible non-malignant, expanding destructive lesions)

—RADIOACTIVE ISOTOPES (both diagnostic and therapeutic)

In addition, the services listed below will be covered according to stated indemnities:

- NORMAL OBSTETRICAL DELIVERY at \$90.00
- ANESTHESIA FOR NORMAL OBSTETRICAL DELIVERY at \$10.00.
- IN-HOSPITAL MEDICAL CARE FOR NERVOUS/MENTAL CONDITIONS (including psychoses, psychoneuroses, chronic alcoholism, and drug addiction)
 - Daily visits, up to 30 days per contract year as follows:
 - \$15.00—first day
 - 10.00—second day
 - 5.00—per day 3rd through 9th days
 - 3.50—per day 10th through 30th days
 - In-Hospital Consultations at \$25.00 per contract year.

Any optional riders or extended coverages available under present Blue Shield plans may be added according to enrollment provisions presently governing Blue Shield group and non-group subscribers.

What About the Non-Participating Physician and Other Practitioners?

The Special Service Plan subscriber would be indemnified when services were obtained from a Non-Participating Physician, a Doctor of Osteopathy, a Podiatrist, or a Doctor of Dental Surgery. The amount paid for a given service would be based upon the average charge being made for that service by Participating Physicians. Immediate data upon which to base administration will be available through results of such studies as Kansas Blue Shield's 1962 *Study of Professional Charges* and the recently completed National Blue Shield *Test of Performance*, from which Kansas statistics will soon be available. As the program operates, experience will yield additional information which will allow a continuing updating of average figures.

Will the Cost Be High?

The cost of the plan will be higher than that of previous Kansas Blue Shield plans, but not substantially greater than monthly rates for Schedule 3 with an X-ray Rider. Further, part of this difference lies with the fact that added benefits are included within the Special Service Plan. An allowance for obstetrical anesthesia and coverage of previously non-available benefits such as puncture aspirations of joints, thoracoscopies, needle biopsies, and spinal taps account for some of the rate differential.

However, as a means of providing an alternative at lower cost, Blue Shield has developed a Co-Insurance Option under which 80 per cent of reported charges would be covered, with the balance payable by the subscriber. In cases of catastrophic illness

under the Co-Insurance Option, the subscriber's responsibility for 20 per cent of professional charges would be limited to an expenditure of \$100 per person, or \$200 per family during any given contract year. After this amount had been incurred, Blue Shield would then provide coverage for the entire cost of subsequent professional services during the balance of the contract year in effect.

Indemnification of normal obstetrical delivery, obstetrical anesthesia, and hospital care for nervous/mental conditions would be the same under the Co-Insurance Option as earlier described in the full coverage alternative.

Will the Plan Work?

The basic theoretical objection to a "pay charge" plan has always been that it might tend to increase the cost of medical care to those enrolled. One of the major aims of the Special Service Plan experiment is to determine whether, in practice, this supposition proves to be valid.

There are some reasons why the hypothesis—that it is possible to pay professional charges in full without incurring cost inflation—might stand the test of experience. The agreement of the Participating Physician to make no differential in professional charges to Blue Shield subscribers as compared to other persons within his practice would suggest that a revision in the doctor's fees for a given service would reflect a change made to his entire practice. This, plus the Participating Physician's agreement to accept local Review Committee recommendations in cases where unusual charges might be involved, would seem to insure that costs of prepaying medical care to subscribers under such a plan would not differ substantially from costs for similar care incurred by other segments of the public.

Will the Plan Be Available Elsewhere?

Blue Shield's Special Service Plan is at present an experiment. If the program is well accepted by the public in Riley and Geary counties, a further limited implementation might be considered as a worthwhile extension of the experiment. If the plan subsequently proves successful in operation, there would be every hope that it might serve as a high-level Blue Shield program available wherever local medical societies might approve it.

If workable, such an approach would possess many advantages. Predictability of coverage would appeal to the subscriber. Payment of the physician's full professional charge would remove the often irritating accounting problems associated with balances above Blue Shield payments. Questions of income would no longer be involved in the doctor-patient relationship. Finally, one of the traditional objections to Service

Benefit Plans—that of "third party" involvement in determination of professional charges—would appear to be considerably minimized.

Although it is not possible to evaluate the future of the Special Service experiment at this point, the plan is another indication of Blue Shield's willingness to work cooperatively with component societies on locally acceptable experimental programs for providing better Blue Shield benefits to the subscribing public.

Editorial Comment

(Continued from page 564)

annual stag sports banquet. Reference committees, which in the past have met during hours when

scientific papers were being presented, will now meet on Tuesday evening. No other official event is scheduled for that period. The final session of the House of Delegates, when all resolutions are acted upon, and when the election of officers takes place, will be held on Thursday morning.

The scientific program, now being prepared by the Reno County Medical Society, will begin at 10:00 a.m. on Tuesday and will continue through Wednesday, except that Wednesday afternoon will be devoted to specialty meetings.

Hutchinson has ample housing and meeting facilities for this convention. The 1965 Annual Session will be an outstanding meeting. We hope every member of the Society will find it possible to attend at least a portion of this meeting.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in July, 1964 and 1963

Diseases	July		5-Year Median 1960-1964	January to July Inclusive		5-Year Median 1960-1964
	1964	1963		1964	1963	
Amebiasis	1	1	1	11	75	31
Aseptic meningitis	1	—	—	2	—	2
Brucellosis	1	—	1	2	6	13
Cancer	355	326	375	2,676	2,344	2,414
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	4	2	2	24	6	11
Gonorrhea	337	244	239	1,868	1,642	1,600
Hepatitis, infectious	38	22	22	442	152	331
Meningitis, meningococcal	2	2	2	8	10	10
Pertussis	—	10	—	13	39	22
Poliomyelitis	1	—	1	1	—	1
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	10	41	11	91	150	33
Scarlet fever	—	4	4	65	281	406
Shigellosis	12	13	13	154	31	83
Streptococcal infections	70	67	46	1,123	853	901
Syphilis	79	93	93	569	661	716
Tinea capitis	12	1	1	58	43	58
Tuberculosis	26	17	18	158	168	158
Tularemia	—	5	2	4	11	9
Typhoid fever	1	—	—	3	—	2

The influenza season will soon be with us. Although a severe epidemic is not expected every physician should give serious consideration toward protecting those of his patients, who, through some infirmity or other, might suffer a calamitous illness from even a mild case of influenza.



Personalities—IN KANSAS MEDICINE

Dr. and Mrs. Lafe Bauer and family of Prairie Village are spending a month in Honolulu, where Dr. Bauer is taking a special course at the Kaiser Foundation Hospital.

Leland Speer, Ottawa, participated in the 10th annual meeting of the Flying Physicians Association held in Palm Springs, California, in September.

Society members inducted as fellows of the American College of Surgeons at the recent meeting in Chicago were: **Thomas A. Turner**, Halstead; **Kenneth E. Hedrick**, Hutchinson; and **Harold L. Patterson**, Larned.

Donald E. McIntosh has resigned his position at the Parsons Clinic and moved in October to Kansas City, Missouri, where he has joined the staff of the Kansas City General Hospital. There he will continue his training and teach in the department of anesthesiology.

In September, Governor John Anderson appointed **E. P. Sereres**, Kansas City, coroner of Wyandotte County. Dr. Sereres succeeds **Ralph J. Retenmaier** who recently resigned.

John L. Morgan, Emporia, was chosen as "Man of the Week" by the *Emporia Gazette* in October. Recognition was given to Dr. Morgan for his efforts

in compiling the papers for the recent "Emporia Issue" of the JOURNAL.

L. R. Pyle, Topeka, was elected vice president of the American Association of Obstetrics and Gynecology at their meeting in Hot Springs, Arkansas, in September.

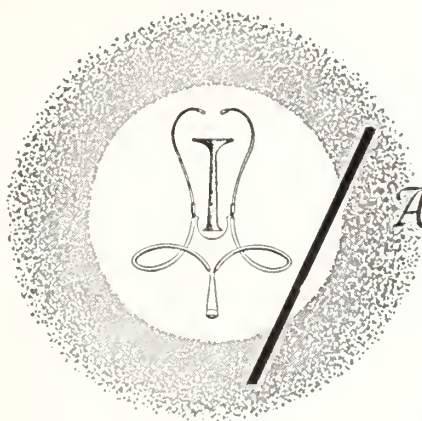
Robert M. Haines, Topeka, discussed the development of the school's treatment program at the dedication of the new treatment unit at the State Girls' school in Beloit in September.

A free diagnostic clinic for crippled children of Marshall County was held in Marysville in early October. The clinic was conducted by **Spencer C. McCrae**, Salina, and **G. Bernard Joyce**, Topeka.

Herbert D. Doubek, Belleville, attended an aviation examiners' seminar at the University of Arkansas in Little Rock in October.

James C. Warren, associate professor of obstetrics and gynecology and assistant professor of biochemistry at KUMC, has received a five-year research career development award from the National Institute of Child Health and Human Development.

Milburn W. Hobson, Shawnee Mission, has been appointed to the staff of the department of obstetrics and gynecology at KUMC.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

NOVEMBER

Nov. 20-21 Annual M.D. Day, University of Missouri Medical Center, Columbia. Contact: Gail Bank, Exec. Dir., Postgraduate Medical Education, Univ. of Mo. Medical Center, Columbia.

Nov. 29 6th National Conference on Medical Aspects of Sports, sponsored by AMA, Miami Beach. Write Secretary, Comm. on the Medical Aspects of Sports, AMA, 535 N. Dearborn St., Chicago 60610.

Nov. 29-
Dec. 2 AMA Annual Clinical Conference, Miami Beach.

DECEMBER

Dec. 2-4 Kansas City Society of Ophthalmology and Otolaryngology, Hilton Inn, Kansas City. Write: C. H. Steele, M.D., 480 Brotherhood Building, Kansas City, Kansas.

POSTGRADUATE COURSES

American College of Chest Physicians.

Jan. 4-8 *Stroke and the Cerebrovascular Diseases*, Downey, Calif.

Feb. 15-19 *Pathology, Pathologic Physiology and Clinical Aspects of Renal Disease*, Chicago.

Feb. 22-26 *Pain and Addiction*, Boston, Mass.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia, 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska:

Dec. 7-8 *Basic Review of Biochemistry for Practicing Physicians*

Dec. 18-19 *New Horizons in Lymphoma and Leukemia*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha, 68105.

University of Colorado:

Jan. 17-23 *General Practice Review*

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver, 80220.

University of Kansas:

Jan. 21-22 *Medicine and the Law: The New Corner's Law*

Jan. 25-27 *Gynecology and Obstetrics*

Jan. 27-28 *Maternal and Child Health*

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas, 66105.

Dec. 7-10 *Pulmonary Function in Health and Disease*, offered by the state and American Thoracic societies, Tulane University School of Medicine, New Orleans. Write: Hurst B. Hatch, Jr., M.D., 1240 Camp Street, New Orleans, 70130. Registration limited.



Book REVIEWS

pH AND DISSOCIATION: A LEARNING PROGRAM FOR STUDENTS OF THE BIOLOGICAL AND MEDICAL SCIENCES, by Halver N. Christensen, Ph.D., W. B. Saunders Co., Philadelphia, 1963, 60 pages, \$1.75.

A handy appendix to the book reviewed above, and one which might be helpful to anyone bewildered by the varied nuances of contemporary chemistry and the implications of symbols such as pH, H^+ , H_3O^+ , etc. is a short, programmed instruction book on hydrogen-ion chemistry written by Professor Christensen of the Department of Biological Chemistry, University of Michigan in Ann Arbor. Although this form of presentation of material still seems rather strange to this reviewer, it undoubtedly packs a good deal of information in a relatively small space and makes learning easy with its step by step presentation. It seems hard to believe that one could learn all about this subject just from such a book without some supplementary discussion or demonstration, but certainly anyone with a minimal familiarity with chemistry and chemical terms should be able to follow along quite readily. How much of the material covered will stick in the mind of the reader probably depends on how well he is able to correlate it with other areas of knowledge. The book is small, paper-backed, and contains directions for its use and a Logarithm table for necessary calculations.—*J.E.S.*

TEXTBOOK OF OTOLARYNGOLOGY, 2nd Edition by David D. DeWeese, M.D. and Wm. H. Saunders, M.D. C. V. Mosby Company, St. Louis, 1964. 523 pages illustrated. \$9.25.

The authors have arranged a good combination of applied anatomy, physiology, methods of examination, description of specific diagnostic procedures and tests, as well as therapeutic measures, all of which produces a helpful, easy reading book on the management of diseases and disorders of the ear, nose and throat.

The book is primarily written so as to be understood and valuable to the non-specialist, as well as the resident physician and student of medicine. It is

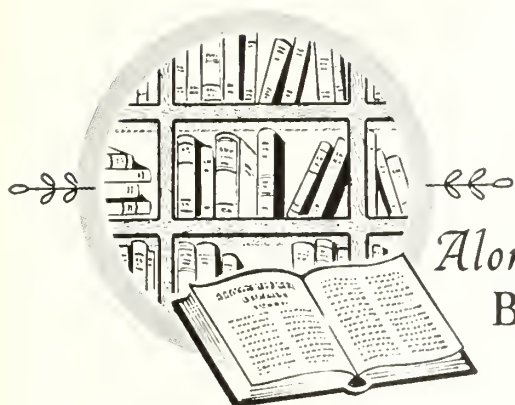
not an exhaustive reference of otolaryngology, but rather a well illustrated and well arranged description of the medical and surgical management of the day-to-day problems of the ear, nose and throat with which most practitioners and surgeons have to contend. The authors are particularly complete in their review of all the methods of treatment for each condition. Some of the sections are carried more extensively into detail, such as laryngoscopy and tracheotomy and, therefore, become valuable references for conditions which are occasionally seen. The section on sinusitis is equally complete and yet does not skip the more simple problems of the nose, such as the management of nose bleeds. The same completeness continues in the ear through mastoiditis and labyrinthitis with an excellent presentation on dizziness and vertigo. This continues through the salivary gland and facial nerve and even includes some of the more common conditions of the neck.

To summarize, the book is well written and well composed and would be a valuable guide to the non-specialist who has occasion to treat conditions of the ear, nose and throat.—*J.A.B.*

PATHOGENESIS OF LEPROSY, CIBA Foundation Study Group 15. Edited by G. E. W. Wolstenholme and Maeve O'Connor, Little, Brown and Company, Boston, 1963, \$2.95.

The CIBA Foundation over a period of years has organized small conferences, some lasting three or four days, others for one day only. The proceedings of the former are published in book form and the latter in the form of a small booklet. The present publication is of the latter and is published in honor of Professor V. R. Khanolkar of Bombay whose work in leprosy is widely recognized.

Although probably not of great interest to local practitioners in Kansas, it is a valuable guide to recent research work in this field. The production is excellent. The chairman of the symposium was Dr. J. A. Doull, whose sad death last year robbed the United States of one of its foremost leaders in the study of leprosy.—*J.D.R.*



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

American Academy of Pediatrics. Committee on Fetus and Newborn. Standards and recommendations for hospital care of newborn infants. Rev. 1964.

Ariëns, E. J., ed. Molecular pharmacology: the mode of action of biologically active compounds. Academic, 1964. v. 1.

Burn, J. H. The autonomic nervous system. . . . Blackwell, 1963.

Conference on the Circulatory Effects of Anesthetics, Washington, D. C., 1963. Effects of anesthetics on the circulation. Thomas, 1964.

Dixon, Malcolm and Webb, E. C. Enzymes. 2d ed. Academic, 1964.

Dublin, L. I. Suicide; a sociological and statistical study. Ronald, 1963.

Eisenstein, A. B., ed. The biochemical aspects of hormone action. Little, Brown, 1964.

Engel, L. L., ed. Physical properties of the steroid hormones. Pergamon, 1963.

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Introduction to molecular biology, by G. H. Haggis, ed. and others. Wiley, 1964.

Kingsbury, J. M. Poisonous plants of the United States and Canada. Prentice-Hall, 1964.

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Kurtz, S. M., ed. Electron microscopic anatomy. Academic, 1964.

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Modern trends in human reproductive physiology. Butterworths, 1963. v. 1.

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Salton, M. R. J. The bacterial cell wall. Elsevier, 1964.

Sternberg, T. H. and Newcomer, V. D., eds. The evaluation of therapeutic agents and cosmetics. McGraw-Hill, 1964.

Symposium on Fundamental Cancer Research. 17th, Anderson Hospital and Tumor Institute, 1963. Viruses, nucleic acids, and cancer; a collection of papers. Williams & Wilkins, 1963.

Wahl, C. W., ed. New dimensions in psychosomatic medicine. Little, Brown, 1964.

Whitfield, I. C. Manual of experimental electrophysiology. Pergamon, 1964.

Wilder, J. R. Atlas of general surgery. 2d ed. Mosby, 1964.

Wolberg, L. R. Hypnoanalysis. 2d ed. Grune & Stratton, 1964.

Zimmerman, L. M. and Levine, Rachmiel, eds. Physiologic principles of surgery. 2d ed. Saunders, 1964.



G. WILLIAM HOLWERDA, M.D.

William Holwerda, 63, Lindsborg, died on October 2, 1964, at the University of Kansas Medical Center in Kansas City.

Dr. Holwerda was born February 17, 1901, in Grand Rapids, Michigan. He received his Doctor of Medicine degree from Northwestern University, Evanston, Illinois, in 1928. His practice was begun in Lindsborg in 1931 and continued there until shortly before his death.

One of the leaders of the Lindsborg community, Dr. Holwerda participated actively in affairs of the city and was a member of many civic organizations.

Survivors include his wife, two sons and a daughter.

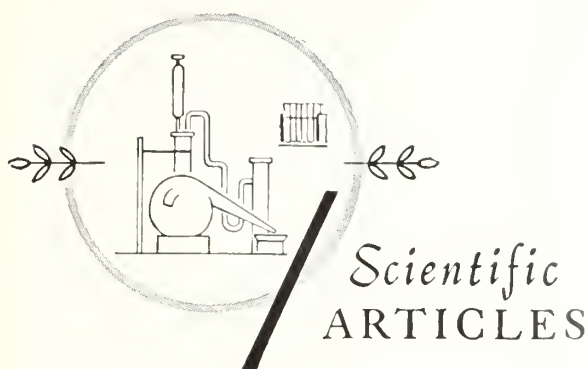
OMAR U. NEED, M.D.

Omar U. Need, a practicing physician in the Oakhill community for more than 60 years, died September 22, 1964, in Oakland, California, where he and his wife had been living for the past several years. He was 87 years old.

He began his practice at Oakhill in 1900, following his graduation from the University Medical College of Kansas City. He was born in Sullivan, Indiana, on September 22, 1877, and moved to Kansas with his parents when he was about ten years old.

Dr. Need was a member of the Oakhill Masonic lodge and the Consistory and Isis Shrine in Salina.

He is survived by his wife, son and two daughters.



The Renogram

Radioactive Isotopes and Renal Disease

T. A. TURNER, M.D., *Halstead**

THE RADIOISOTOPE RENOGAM is an addition to the modern urological armamentarium that is becoming more widely recognized and used. In large part this is due to the efforts of its pioneers, and also the fact that more cases of hypertension are being uncovered and cured by treating renal and vascular diseases. The equipment necessary to perform renograms consists of two scintillation probes, with lead collimators, a supporting stand, ratemeters and recorders (*Figure 1*). The initial expense is high, but the same may be said of much medical equipment. During the test the patient is usually seated in a comfortable position, with the arms resting on a stand or table of suitable height (*Figure 2*). Tracings have also been obtained with the patient in a supine or prone position. In these positions one loses the effect of gravity in helping to clear the kidney of radioactive urine, and in the prone position, pressure on the abdomen would impede the drainage of urine flow and lead to artifacts, and consequent difficulty in interpreting the tracings. The position of the kidneys has been previously determined by an x-ray (KUB), taken with the patient in the upright position. In cases of uremia, abdominal fluid, excessive amounts of gas, or barium previously given, it may be neces-

sary to give a small tracer dose of radioisotope and localize the probes over the area of maximum radioactivity, or as suggested by Scott, the kidneys may be located by tomograms. A measured dosage, three microcuries per kilogram of radioactive iodine

The procedure and equipment necessary to perform renograms is discussed. Examples of renograms including a normal tracing, one of renal failure, one of ureteral obstruction, and one of renal artery stenosis, are shown. The proper value of this test has been emphasized, particularly with respect to other renal function tests.

(I^{131}) tagged to orthoiodohippurate (hippuran)¹ is injected intravenously; loss into the tissue during injection will result in an erroneous tracing. The addition of a third probe located over the urinary bladder has been advocated by some, the resulting tracings called renocystograms. The curve of the bladder tracing assumes a reciprocal appearance of the renal tracings; that is, it rises as the renal curve falls. Winters has used such a probe placement; he

*From the Department of Urology, The Hertzler Clinic and the Hertzler Research Foundation, Halstead.

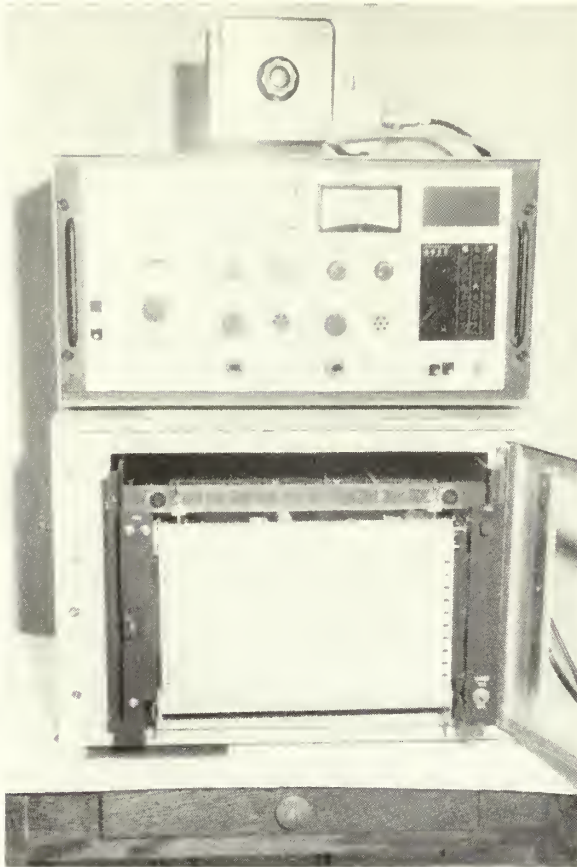


Figure 1. Closeup of the ratemeters and our recorder which has dual tracing stylets.

has the patient void, determines amount of residual urine present and obtains a recording of the urinary flow which he uses as a uroflometry record. We take these records, Xerox them and make them a permanent part of the patient's record. Reflux has also been picked up by the renogram. Others use a third probe over the heart to record cardiac circulation of the isotope. These are refinements that we have not felt necessary.

Examples of Renograms

The normal curve obtained shows an initial spike representing largely renal arterial circulation immediately following the intravenous injection. This is followed by a second segment of lesser slope, climbing to a peak in about five to ten minutes, which represents renal parenchymal flow. Next is the relatively long terminal segment which normally curves gradually back towards the baseline and represents ureteral and pelvic evacuation of the radioactive urine. In Emmett's textbook the tracing is divided into four segments. Dore and colleagues use the terms "tracer appearance, blood flow and drainage segments" to replace "vascular, tubular and excretion" labels. The abscissa represents time, and the ordinate, radioactivity. The tracing is recorded and read from right to left. The tracing of one kidney may be compared with its mate and they are obtained simultaneously, using red ink for the left renal recording and green for the right. Figure 3 depicts a normal renogram tracing.

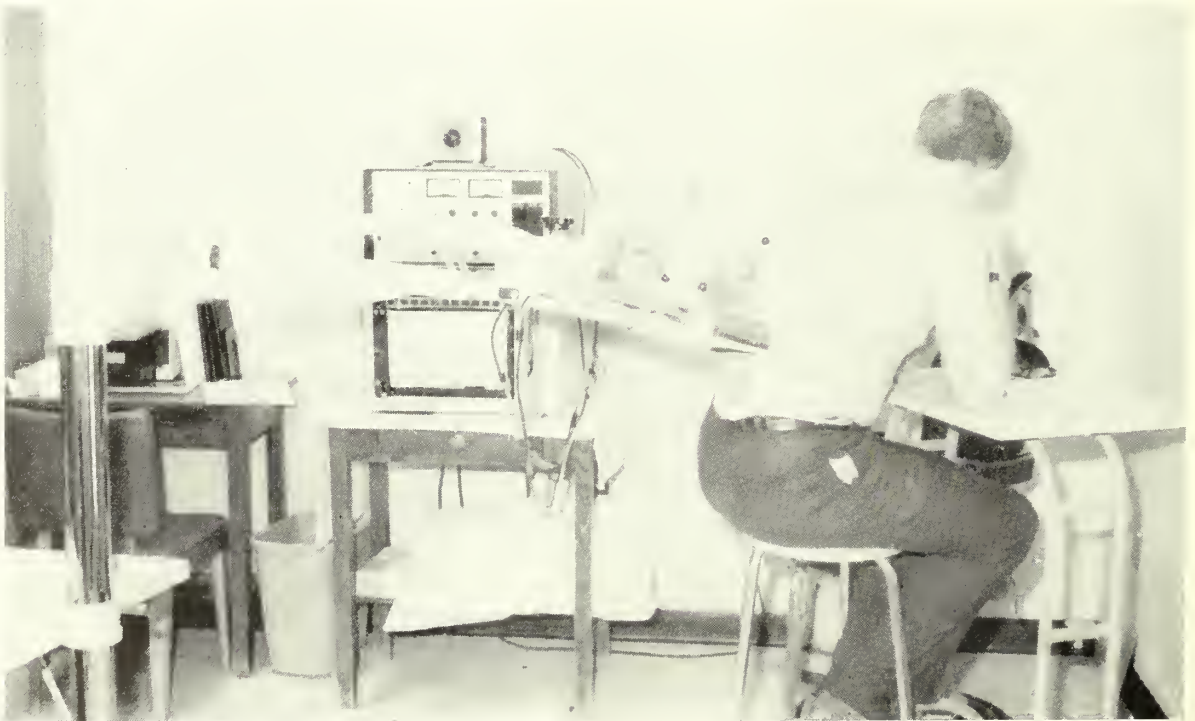


Figure 2. Photo of our equipment with the patient in a sitting position, arms resting on the table, with the table at a suitable height.

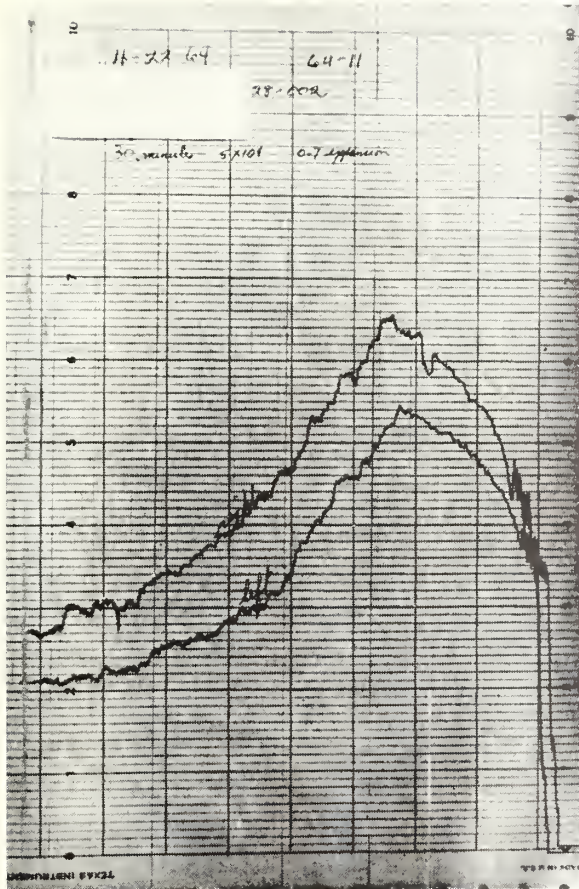


Figure 3. Normal renogram. The top curve represents the right kidney; the bottom the left.

When an abnormal tracing is obtained one should be certain that technical errors have been avoided and it is wise to repeat the test. It should be correlated with the clinical picture, urograms if possible, blood chemistries, renal scans and other tests. For example, the renogram tracing in Figure 4 was obtained from a patient whose blood urea nitrogen was 135 mg., creatinine 5.5 mg.; the patient had staphylococcal pneumonia and cortical renal necrosis due to infection. In this tracing the vascular spike is comparatively low, and the segment representing renal parenchymal flow, usually inclined at 45 degrees or more with the baseline, is flat (more noticeably so for the left kidney tracing), and the third segment continues as a flat tracing since the isotope is not being secreted.

The third renogram tracing in Figure 5 was obtained from a patient admitted to the surgical service with severe right lower quadrant pain, nausea and vomiting; appendicitis was considered, but urological consultation was obtained. A KUB film appeared normal, and excretory urograms showed no contrast medium on the right. Repeat injection of contrast media, and delayed urogram films would likely have been informative, but this would have

necessitated increased radiation exposure, and larger dosage of contrast medium, as well as taking an additional hour or more of time. The renogram showed evidence of right ureteral obstruction, by an upward slope to the terminal segment of the tracing. This is particularly obvious when compared with the normal fall-off of the left kidney tracing. In view of this, cystoscopy was carried out, edema and reddening of the right ureteral orifice was noted, and a small calculus, subsequently proved to be calcium oxalate, was flushed from the bladder. The patient was given Parenzyme® (trypsin) in the hope of lessening the edema; a tracing obtained three days later showed a normal pattern (Figure 6). The initial segments of the curve appear unusual due to changing the recording sensitivity of the probes by the technician and is an artifact. Renograms are performed on hypertensive patients seen by the urological department since it is felt that this should be part of the work-up. This test subjects the patient to less sensitivity hazard than urograms since a small amount of tagged material needs to be injected and the amount of radiation exposure is minor when compared with a plain film of

Parenzyme®—National Drug Company, Philadelphia.

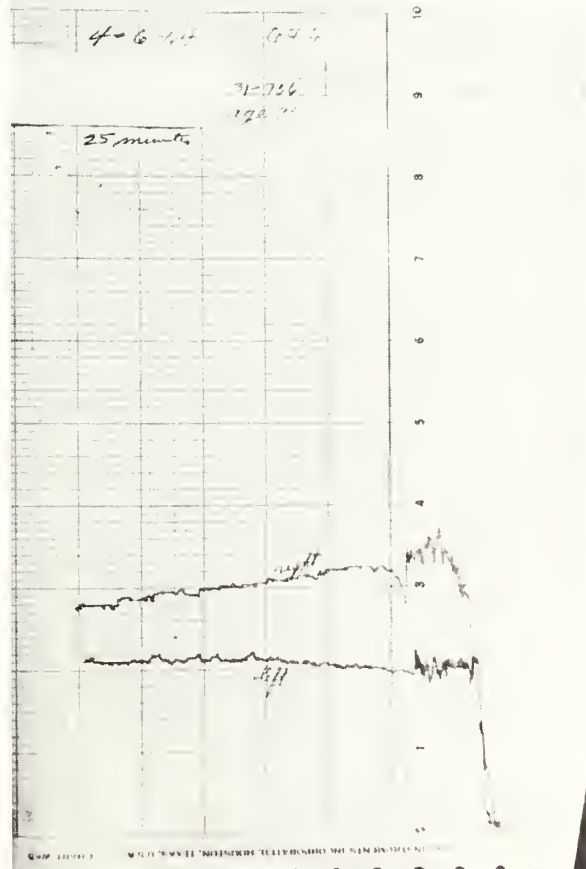


Figure 4. Renogram of patient in renal failure.

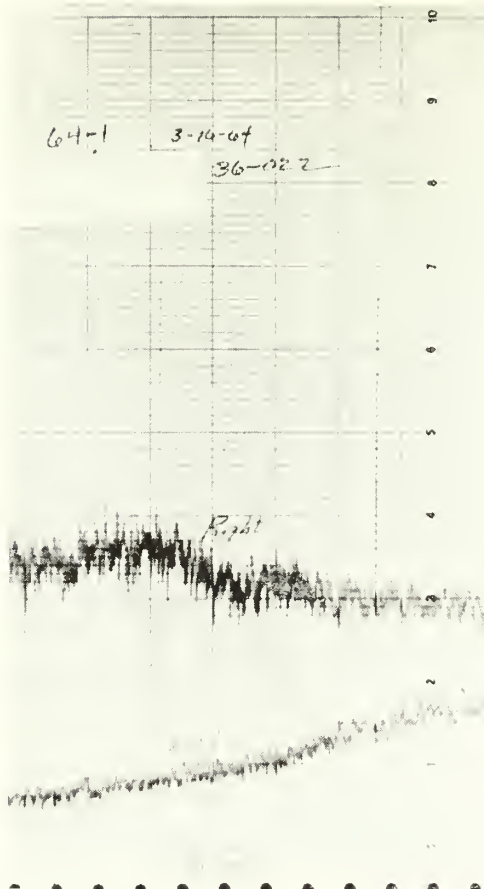


Figure 5. Renogram of patient with right ureteral obstruction due to edema following passage of a small calculus.

the abdomen; there should be no hesitancy in performing this test in early pregnancy. Figure 7 shows a distinct difference between the left and the right kidney, with evidence of impaired circulation to the left kidney. This renogram was obtained from a patient whose blood pressure was repeatedly recorded at 140/100 mm. of Hg.

Discussion

Urography is the keystone in testing to obtain urinary tract information. Rapid sequence intravenous urography showing greater concentration of contrast medium in the one, two, or three minute films plus a diminution in renal size of two centimeters or more would certainly lead one to suspect such a kidney. It is also generally acknowledged that arteriography is the *sine qua non* in determining the status of renal circulation, outside of actual surgical exposure. Between these two tests there is room for additional studies which help to clarify obscure or puzzling

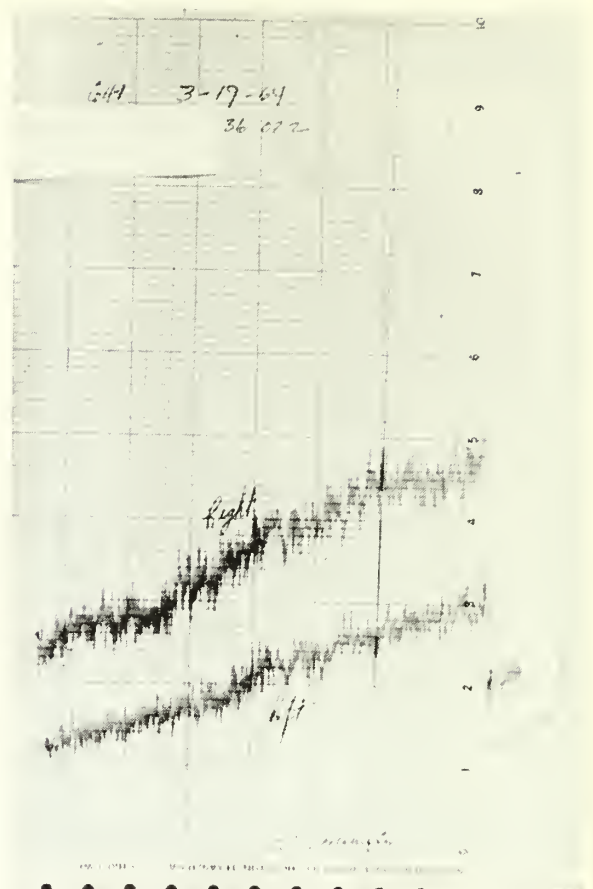


Figure 6. Renogram of the same patient three days later following resolution of the edema.

cases and help to determine if the information to be obtained from arteriography is worth the risk. This is where the Howard test and its modifications, renograms, renal scans, should be used. One test should not be pitted against another, but each should be a tool to use as indicated to gain additional information where it is felt necessary. Like all other tests it is subject to human error of interpretation and errors of technic. Trinkle and Kiser recently described a method to accentuate the value of the renogram by rapid hydration of the patient supplemented with mannitol (an osmotic diuretic), which increases the ability to differentiate prerenal, renal and postrenal uremia. Observing the blood flow of a transplanted kidney is also possible. A tendency to be overly enthusiastic about the renogram, however, will result in disappointment in the results obtained. When viewed in proper perspective and correlated with other studies it rightly assumes a place in defining renal function.

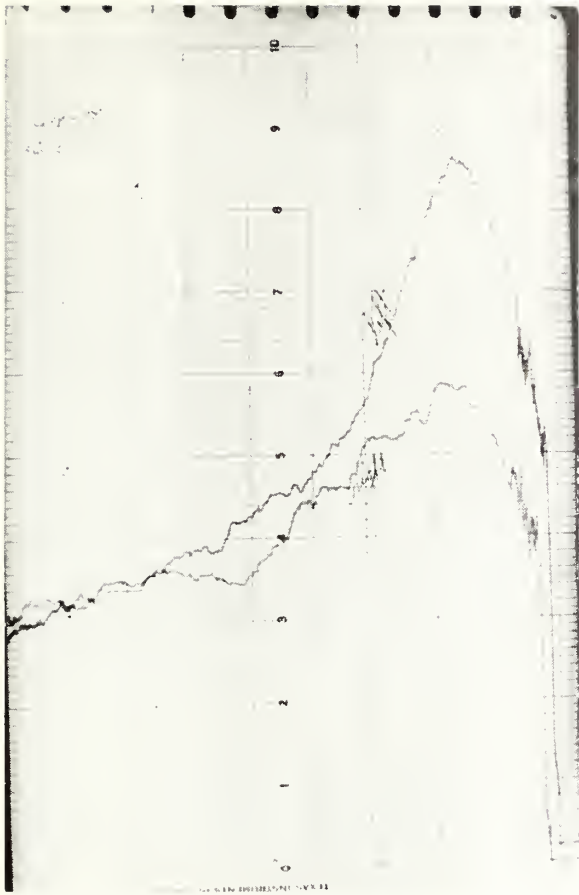


Figure 7. Renogram of a hypertensive patient with right renal artery stenosis.

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AMPHETAMINES BLUR JUDGMENT

Amphetamines significantly impair judgment, according to Harvard Medical School investigators. This finding helps to explain the rude awakening of students who, after taking stimulants, believe they have done well in examinations—but learn they have over-rated themselves.

Speaking before the American Society for Pharmacology and Experimental Therapeutics in Lawrence, Kansas, Drs. Gene W. Smith and Henry K. Beecher reported on studies designed to evaluate the abilities of 78 students under a number of circumstances.

To determine how drugs affect judgment, students were given a battery of calculus tests after taking amphetamines, placebos (sugar pills), and small doses of secobarbital. After each test, students estimated how many problems they had solved correctly. A judgment-error score than was calculated.

Students consistently over-rated themselves. When they took placebos, 87 per cent thought they had done better than they actually had. But under the influence of a stimulant (amphetamine), 91 per cent overestimated their work. The drug-induced tendency to overevaluate was "significantly greater" than that observed in the placebo group. The increase in judgment error was also suggestive with the barbiturate.

In previous studies these investigators found that amphetamines apparently heighten the students' ability to perform clerical coding tasks. When they took examinations in calculus, however, amphetamines apparently had no effect.

In another study, also reported at the Kansas meeting, Drs. Peter E. Siegler and John H. Nodine of Philadelphia found that sedatives and hypnotic agents apparently can impair coordination. Students at Hahnemann Medical College were given a drug or placebo and then submitted to a standard test of motor performance. After sleeping until midnight, the students were awakened to perform the test again. A third evaluation was made in the morning.

Students were given placebos, secobarbital or one of three sedative drugs. Evaluation of scores on the midnight tests revealed that glutethimide (a non-barbiturate sedative) and secobarbital interfered with motor performance to a greater degree than the other drugs tested.

Based on this study, Dr. Siegler said it seems likely that many of the sedative and hypnotic drugs in common use would affect a person's ability to drive a car. He advised that patients should be cautioned not to drive after taking sleeping pills.

Medical World News 5:52 (Sept. 25) 1964.

Hepatitis and Cirrhosis

Stages of Management in Chronic Liver Disease

ARTHUR P. KLOTZ, M.D., *Kansas City, Kansas**

THE LIVER, like many other organs and tissues, reacts to all types of injuries in a limited number of ways. Injurious agents may be legion. The final tissue change does not reflect the nature of the cause but rather its severity and duration and the histological distribution of the injury. In advanced cirrhosis from any origin it may be impossible to retrace the cause from the histological picture at biopsy or necropsy. When liver disease is diagnosed at this stage it is often irreversible. The pathological process may be arrested but it is doubtful if the normal architecture once destroyed can ever be restored. Inconspicuous injury too may insidiously lead to irreversible structural and functional changes and in these cases also once the lesion is in existence it is often impossible to define the cause.

Viral Hepatitis

Severe acute liver cell damage, on the other hand, can be followed by complete restitution to normal as in viral hepatitis. Complete recovery is the expected course of infectious hepatitis and fatalities are probably rare. Langmuir has analyzed the epidemiology of hepatitis in the nation from 1954 to 1963. A comparison of morbidity and mortality trends revealed one epidemiologic conclusion that is surprising. Although the seasonal swing varied as much as 3:1, and the range from peak to trough in the long term periodicity varied as much as 7:1, the mortality rate throughout this period was essentially constant. The swings in the incidence curve reflected swings in the prevalence of infectious hepatitis but included undoubtedly an unknown number of cases of serum hepatitis occurring at a fairly constant rate. His interpretation is that deaths attributable to hepatitis must result from serum hepatitis and that infectious hepatitis is rarely, if ever, fatal.¹

Nevertheless, in spite of the usually excellent prognosis of infectious hepatitis some form of firm, but reasonable, management should be instituted since this may lead to fewer cases of chronic hepatitis. *Figure 1* outlines a recommended scheme of manage-

Medical management of advanced liver disease is considerably improved in many details over treatment of 20 years ago. In spite of this, however, the prognosis of chronic liver disease is very little better than it was at that time. The five year survival cure of patients shunted for varices is probably no better than the five year survival for operated carcinoma of the lung. The potential for cure is highest in cases of fatty liver when this condition has been found by liver biopsy in a thorough patient work-up.

ment. Bed rest is probably wise since the virulence of the virus in any case is unknown and the sequela of chronic disease is possible. The average of two weeks' rest should mean that physical and laboratory examinations are entirely normal before activity is increased. If caloric intake is inadequate it should be supplemented with intravenous (IV) glucose. In severe disease ACTH is useful as supportive management.

Chronic Hepatitis

Severe acute infectious hepatitis may result in so-called post-necrotic cirrhosis or chronic hepatitis ultimately leading to cirrhosis. Perhaps one per cent

MANAGEMENT OF LIVER DISEASE

ACUTE HEPATITIS

- Two weeks bed rest
- Check liver size and function tests
- No alcohol for 6 months
- Gamma globulin for contacts
(.01-.06 ml/lb body wt.)
- Strict isolation for excreta
- Sterilize bed clothes and towels
- No food handling for 6 months after recovery

SEVERE DISEASE—ACTH CHRONIC VIRAL HEPATITIS—

Individualize Management

Figure 1

* Presented at the New Orleans Graduate Medical Assembly, New Orleans, Louisiana, March 4, 1964.

Dr. Klotz is a Professor of Medicine and chief of the Gastroenterology Section at the University of Kansas Medical Center.

of viral hepatitis cases progress to this. This type of complication may eventually develop prominent immunologic features with elevation of gamma globulins, appearance of the lupus erythematosus phenomenon and a clinical picture described as "lupoid hepatitis." Such patients may be improved by the use of steroids which suppress the immunologic response, improve the well-being of the individual and control systemic manifestations, although it is questionable whether the progressive nature of the destructive liver disease is at all altered.

Liver biopsy alone reveals the diagnosis of chronic hepatitis and diagnosis can be made only in this way. Consequently needle biopsy should be performed in any patient if clinical evidence points to possible hepatic disease. When needle biopsy is routinely done for acute hepatitis as it should be, later biopsies can be compared serially for appropriate management if complete healing has not occurred. Management must be individualized but adequate daily dosage of prednisone can be used on prolonged management in such cases as well as in "lupoid hepatitis."

Fatty Liver

The liver normally contains about five per cent fat. Fatty liver can occur from a number of things such as alcoholism, pregnancy, obesity, uncontrolled diabetes, malnutrition, tuberculosis and chronic wasting disease. Accumulation of fat in the liver occurs following toxic injury to the liver cells or in association with nutritional deficiencies. Excessive transport of fat to the liver as in obesity is another mechanism. Some fatty livers develop in man which are unexplained and persist regardless of therapy. This condition, however, is one disease of the liver that is generally completely reversible. In most instances directing appropriate therapy to the underlying obvious cause will correct the pathology.

The fatty liver usually is large, firm, and seldom tender. Laboratory findings are an increased BSP retention and sometimes altered serum proteins. The condition is thought to be reversible in four to six weeks by means of a nutritious diet and rest.

A rare form of fatty liver known as acute yellow atrophy of pregnancy occurs in the third trimester of pregnancy from an intense diffuse accumulation of fat in small intracytoplasmic vacuoles but without inflammation or necrosis. Although the disease is usually fatal the pathologic picture suggests it is reversible. Jaundice in this trimester of pregnancy must be distinguished from idiopathic cholestatic jaundice of pregnancy, a benign condition which tends to recur with other pregnancies; and the jaundice of eclampsia and toxemia which has its distinctive pathology.

Alcoholism

The commonest form of fatty liver occurs in alcoholism and of course its treatment is complete cessation of drinking by the patient. Its histological development in alcoholics is now more easily understandable in the light of recent knowledge. Although the evolution of Laennec's cirrhosis has been described as being nutritional due to a poor food intake on the part of the alcoholic, more and more evidence is accumulating that definitely establishes alcohol as being a toxic substance. Both experimental studies in our laboratory²⁻⁴ and clinical studies⁵ support this concept. *Figures 2 and 3* list some metabolic effects

METABOLIC EFFECTS OF ALCOHOL

1. Stimulates hepatic fatty and acid synthesis
2. Increases total hepatic fatty acid content
3. Increases serum cholesterol
4. Produces serum lactescence
5. Increases serum FFA
6. Increases plasma triglycerides
7. Increases blood lactate levels
8. Increases serum uric acid
9. Increases urinary magnesium loss
10. Increases production of catecholamines
11. Stimulates gastric secretion
12. Causes pancreatitis
13. Results in hypoglycemic coma

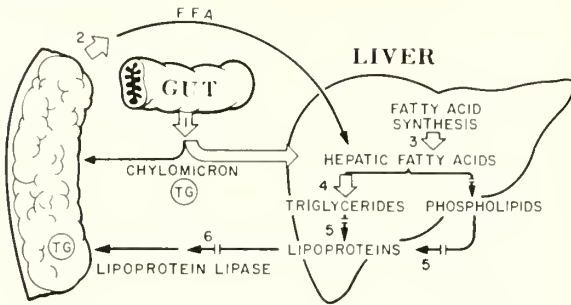
Figure 2

METABOLIC EFFECTS OF ALCOHOL

- Depresses AD activity
- Decreases hepatic DPNH: DPN Ratio
- Decreases intestinal absorption
- Decreases urinary output of uric acid
- Decreases transformation of serotonin to 5-HIAA
- Decreases excretion of 5-HIAA
- Suppresses secretion of ADH

Figure 3

of alcohol. *Figure 4* depicts various mechanisms of fatty liver and its development with certain well studied clinical conditions. If the alcoholic patient with a fatty liver can be managed early, complete hepatic recovery can be expected. The discovery in any patient of fatty liver must rest upon liver biopsy which ideally should be part of a thorough work-up in all alcoholic patients. It should also be part of the work-up of any patient likely to have hepatic disease because of an illness that may have associated liver involvement as part of its complex.

**ADIPOSE
TISSUE**

OBESITY 1
 CHRONIC ALCOHOLISM 2 3 4
 TOXIC INJURY (CCl₄ WHITE PHOSPHORUS) 5 6
 MALNUTRITION (KWASHIORKOR) 2 5 6
 CHRONIC WASTING DISEASE 2 (PERHAPS)
 DIETARY IMBALANCE
 DIABETES

*Figure 4***MANAGEMENT OF ADVANCED LIVER DISEASE**

Prolonged bed rest

Then—

Restricted physical activity

X-Ray GI tract

Esophagoscopy

Avoid use of:

Long lasting barbiturates

Morphine

Chlorothiazide

Alcohol

Methionine

Large doses of Niacin, Vit. K.

Urea

Steroid Therapy:

In rapid deterioration

If immunologic features are prominent

*Figure 5***MANAGEMENT OF ADVANCED LIVER DISEASE**

Edema and ascites

300 Mg Sodium

Chlorothiazide

Spirolactone 100 mg/d } Synergistic

Prednisone

IV Albumin

Norepinephrine in renal circulatory failure

High protein diet

Figure 6

SEVERE LIVER DISEASE

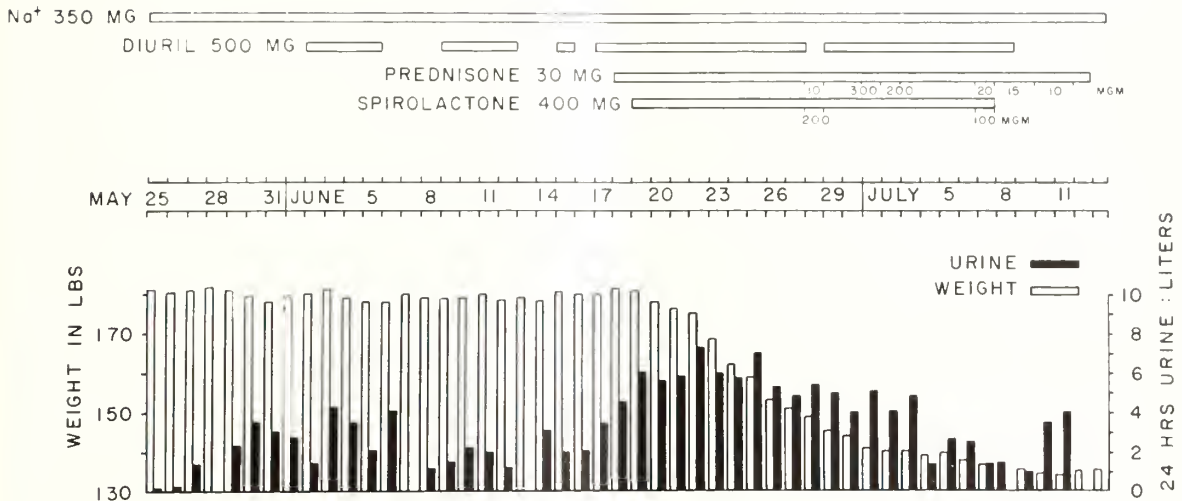


Figure 7

Advanced Liver Disease

The majority of patients with decompensated liver disease see a physician for the first time after decompensation has become evident with edema, ascites or jaundice. Most of these have advanced cirrhosis and management consists of an attempt by the physician to correct the decompensation and thereafter assist the patient in maintaining compensation. *Figure 5* outlines the general principles to be followed. One aspect of management that is almost always overlooked in the uncomplicated patient is an exploratory x-ray study of the gastrointestinal tract for evidence of varices, ulcer, or other lesion that can lead to hemorrhage at some later date. This examination should also be supplemented by esophagoscopy. Possible GI bleeding occurring at some later date can then be handled more confidently by the physician in charge.

If edema is present it must be corrected (*Figure 6*). *Figures 7* and *8* demonstrate the employment of various diuretics and their synergistic effect in two cases. If coma develops other specific measures must be undertaken as shown in *Figure 9*. In coma, if blood transfusion is necessary fresh blood is preferable to banked blood since ammonia accumulates rapidly and becomes significant in blood over four hours old. An interesting new approach to coma by immunizing the patient against urease has been reported but is still in the experimental stage.⁶ Chronic recurring coma in a few selected patients may be

treated successfully by sub-total colectomy but only after careful clinical study. Hemorrhage and varices also require that definite measures be undertaken (*Figure 9*). Esophageal cooling shows great promise as a means of controlling hemorrhage. Its application can be learned with a little practice (*Figure 10*). It can be used in bleeding ulcer also if a gastric balloon replaces the esophageal balloon. IV pituitrin is another measure for bleeding varices if other approaches cannot be used. Altered blood components may sometimes be corrected by Vitamin K-S (II) or Amicar.

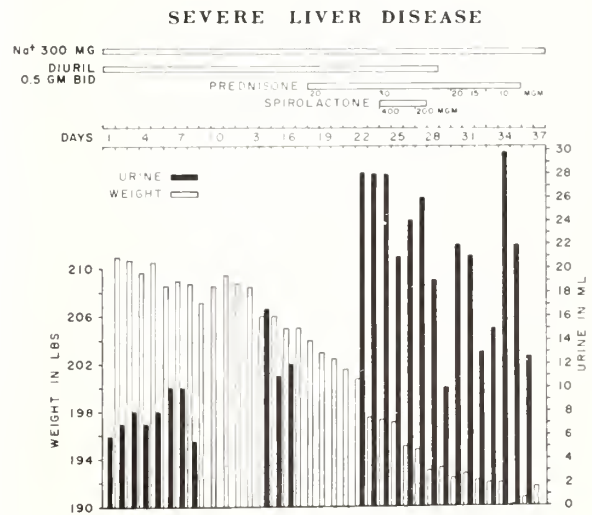


Figure 8

MANAGEMENT OF ADVANCED LIVER DISEASE COMA

Purge
 Stop protein intake
 IV glucose to 1500 cal. daily
 Intranasal O₂
 Tetracycline 3 gm daily or
 Neomycin 2-4 gm daily
 Hemorrhage from varices
 Cooling
 Senkstaken-Blakemore tube
 Shunt
 Vit. K-S (II) for factor V 8
 VII correction
 Aminocaproic acid for inhibition
 of hyperfibrinolysis

Figure 9

Medical management of advancement liver disease is considerably improved in many details over treatment of 20 years ago. In spite of this, however, the prognosis of chronic liver disease is very little better than it was at that time. The five year survival cure

of patients shunted for varices is probably no better than the five year survival for operated carcinoma of the lung. The potential for cure is highest in cases of fatty liver when this condition has been found by liver biopsy in a thorough patient work-up.

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Figure 10



Airborne Infections

How They Spread and Control Procedures

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IN EARLIEST RECORDED medical literature it was postulated that certain diseases were transmitted by the air. However, since so many possible explanations existed for the cause of disease due to supernatural phenomenon of one form or another, there is doubt that the contagiousness of any disease was generally accepted during this period. In the middle of the 14th century, epidemic plague, the Black Death, appeared in Europe and it has been estimated that between 25 to 75 per cent of the population of Europe perished during this epidemic.¹ This epidemic marked the nearest approach to a definite break in the continuity of civilization that ever occurred, and produced almost universal acceptance of the doctrine of communicability of disease. In the early 1800's, Pasteur demonstrated the presence of living organisms in the air and postulated that they might produce certain diseases. This work was significant since for centuries it had been postulated that diseases were caused by living organisms; however the development of the concept that diseases were transferred from one person to another by these organisms had been greatly handicapped by the belief that living organisms developed spontaneously in the sick.

A favorite tool for studying the problem of airborne infection was tuberculosis, not only because it was the leading cause of death at the time, but also because the disease's easily recognized pathologic features indicated the probability that it was acquired by inhalation. It was originally felt that the air expired by tuberculous patients did not carry the particles which transmitted the disease, as evidenced by the "immunity" of physicians and others who were in daily contact with the sick. From 1860 until almost the turn of the century, opinion prevailed that the dust from dry, pulverized sputum and contaminated articles such as clothing of the patient were the main vehicles for transmission. This belief then became the basic premise for such hygienic measures as anti-spitting laws and disinfection of habitats visited by the sick.

With the discovery of the tubercle bacillus, it was soon found that experimental animals could be infected by having them inhale pulverized tuberculous sputum, and it was realized that if the disease were naturally transmitted in this way, the conversion of tuberculous sputum into a physical form which could be inhaled had to be explained.² Within the last 25

Convincing evidence has accumulated showing that pulmonary tuberculosis is spread by droplet nuclei which are small particles dispersed throughout the room air and held in constant suspension by virtue of their size. Important factors in the control and prevention of diseases spread by these particles are presented.

years, the manner in which this conversion to transmissible form is accomplished has been demonstrated. This has given us a clearer understanding of how the disease is spread and what preventive measures may be of benefit.

If diseases are to be transmitted by air, then the organisms which cause them must have some means by which they can be liberated into the air. They must remain both alive and infectious in transit and there must be some means by which they can be implanted into the susceptible tissues of the new host.

Particles bearing infectious organisms are liberated into the air in two ways. Primarily they arise from activities involving the respiratory tract, such as sneezing and coughing. Secondly they arise from disturbance of organism-bearing particles which have accumulated in the dust of rooms. Very few organisms are liberated in quiet breathing, but in sneezing and coughing, the high velocity of air passing over the respiratory tract tears off large numbers of small droplets which are forcibly ejected into the air. Organisms are liberated in small numbers by talking, large numbers by coughing, and very large numbers by sneezing.³ The size of these droplets varies with the speed of the air flow producing them and their size is important since it determines their physical behavior.

* Given at the Annual Meeting of the Kansas Tuberculosis and Health Association, September 26, 1963, Kansas City, Kansas.

Dr. Erwin is a Fellow in Pulmonary Disease, and Dr. Ruth is an Assistant Professor of Medicine at the University of Kansas Medical Center.

The faster the air flows, the smaller the size of the droplet produced.³ In sneezing and coughing, the air flow is quite rapid and consequently the average size of droplets ejected is approximately ten micra or less in diameter.⁴ In addition to these small droplets, or water particles, a spray of larger droplets and fragments of mucus from the nose and throat are also ejected on coughing and sneezing. The bacterial content of these different size droplets varies considerably. The larger ones may contain large numbers of organisms while the smallest droplets may contain none or, at the most, one or two.

After ejection from the mouth and nose, the smallest droplets begin to settle. However, as they fall they evaporate quite rapidly, almost instantaneously in the case of smaller particles, leaving a small crystallized residue which is called the droplet nucleus.⁵ This droplet nucleus contains any bacteria originally present in the droplet. It has been possible through the use of various techniques to estimate the speed at which these small particles, the droplet nuclei, settle to the ground. This rate of fall has been found to be approximately four hundredths of a foot per minute.⁴ Droplet nuclei settle so slowly that in occupied places they remain constantly airborne on the small air currents produced by differences in temperature between various parts of a room. Since it has been shown that extremely small air particles are produced by sneezing and coughing, it follows that practically all of these particles will evaporate before reaching the ground and remain suspended as droplet nuclei, containing bacteria.

The concentration of droplet nuclei in air at any one time is determined by the difference between the rate at which they are added and the rate at which they are removed from a given volume of air. Since these particles are airborne, it is logical that the major factor operating in their removal would be ventilation. The average ventilation rate for most rooms is approximately six air changes an hour. At this rate of change the concentration of droplet nuclei will fall to approximately one per cent of its initial value in about 45 minutes.² It then becomes clear that ventilation is critical in determining the infectivity of air. Transmission of infection by droplet nuclei is possible only between people sharing the same indoor enclosed atmosphere. Even with rather limited ventilation of occupied rooms, the chance that a particle liberated by one occupant will be inhaled by another is not large. Outside the room, the speed with which these particles are diluted and scattered reduces this chance to the vanishing point.

The larger droplets and mucous threads, by virtue of their larger size, fall rapidly to the ground and also evaporate. These are not suspended in the air but become incorporated in the dust. These particles can

become airborne only when dust is disturbed by the movement of people within a room during activities such as sweeping, bed making, etc. It is possible, however, that during these disturbances some of the larger particles will be fragmented into small particles the size of droplet nuclei which could then be suspended in the air. This possibility, however, is of limited statistical importance in the spread of airborne disease.

There is also another important difference between these two types of contaminated particles. The larger ones not only settle out rapidly, but they also cannot penetrate to the alveoli of the lung due to their size. The larger droplets ejected from the respiratory tract and containing organisms, may be projected directly on to the skin, lips, or nose. It is unlikely, however, that tubercle bacilli reaching these sites will produce infection, and despite the widespread acceptance of this mode of spread, its actual importance has not been definitely established.² With regard to airborne particles, the larger particles present in dust, when inhaled, are for the most part trapped in the upper portion of the respiratory tract since they are larger and settle quickly. Most particles the size of droplet nuclei, however, will be inhaled with the air and go to the alveoli. This was shown in a study⁶ during which animals were exposed to air with a known concentration of droplet nuclei, each containing a single tubercle bacillus. The number of granulomas produced was approximately equal to the number of live tubercle bacilli inhaled, indicating that most of the droplet nuclei were trapped in the alveoli. The same study was repeated using larger particles which settled at the same rate as dust, and only six per cent of these produced infection, proving that most of these particles failed to reach the deeper portions of the lung and were trapped in the upper respiratory tract. Tubercle bacilli which were implanted on the lining of the upper respiratory tract proved to be completely harmless, indicating that for infection to occur, it was necessary for the bacteria to reach the deepest portion of the lungs. One further study illustrates quite well the concept that pulmonary tuberculosis is indeed caused by droplet nuclei.⁷ Patients with far advanced pulmonary tuberculosis and large numbers of tubercle bacilli in the sputum were placed in a room. The air from this room was ventilated to the outside passing through a chamber containing a number of guinea pigs. During the first two years of the study, 50 per cent of the animals were infected by breathing the air from the tuberculosis ward. This study was further refined by separating the animals into two chambers and irradiating the air in the ducts leading to one of the chambers with ultra-violet light.² Air going to the other chamber was not irradiated and was represent-

ative by the ward air. During the two years of study, none of the animals receiving irradiated air developed tuberculosis while the animals receiving unirradiated air continued to become infected at approximately the same rate. These studies demonstrated that the animals were infected by air and purification removed the particles. The only particles light enough to travel the system of ducts without settling out are droplet nuclei.

What, then, are the practical implications to be derived from these studies in regard to the control of the spread of tuberculosis and protection of personnel working with patients who have tuberculosis. The major factors in the control of infection due to inhalation of droplet nuclei and, hence, control the spread of pulmonary tuberculosis, are reduction of the number of droplets discharged, effective chemotherapy and adequate ventilation. As was seen earlier, the concentration of droplet nuclei will drop to approximately one per cent of the original value with average air change in the patient's room. Droplet nucleus-borne infection is a product of limited ventilation and adequate ventilation is one of the most important factors in the control of droplet nucleus-borne infection.

Another measure that is of importance in the control of infections due to droplet nuclei is the use of masks, both by the patient and by personnel in contact with the patient. To be effective, a mask must serve as a filter. It must remove contamination in the form of infectious airborne particles from the inspired air. Cloth and spun fiber masks fulfill this requirement adequately. Paper masks function mainly as deflectors and consequently are not as effective.

If the mask is worn properly; that is, below the chin and enclosing the nose with no appreciable air leak, this will decrease the incidence of infection by approximately 75 per cent.⁸ If a mask is worn by the patient, care should be taken that the mask does not become wet, since when the patient coughs the high air speed passing over the moisture in the mask may in itself produce droplets.

It has been shown that ultra-violet irradiation is effective in killing organisms suspended in air as droplet nuclei.⁴ A number of systems have been devised to accomplish this.^{2, 9, 10} Direct irradiation of room air has been attempted and is quite effective, however severe skin and eye burns occur as a result of exposure to ultra-violet light in concentrations necessary to achieve desired results. Consequently, direct irradiation of the air of occupied places is not possible without careful and somewhat cumbersome protection of the occupants. Other methods that have been advocated are irradiation of the upper portion of the air, so that the beam does not strike the patient, irradiation of the entrance to the room, and irradiation of the various duct systems leading to and from the

room. These systems are quite expensive and require considerable planning before installation. In some instances they are dangerous if unsupervised, and consequently are suited at present only for larger institutions.

Dust control resolves itself into the prevention of dust accumulation, dispersal and transport. Methods available for killing droplets nucleus-borne organisms are not efficient in destroying organisms in dust particles.² The major problem with respect to dust-borne organisms in the control of pulmonary tuberculosis is the remote possibility that during the performance of tasks such as bed making, sweeping, dusting, etc. some of the larger particles of dust may be fragmented into smaller droplet nuclei which would then become a further source of infection. While it is not necessary to sterilize the patient's bed clothes or dishes, if the patient is in the home, they should be cleaned separately from those of the family. Wet dusting of all surfaces with water-containing anti-bacterial compounds does much to reduce the amount of dust accumulating in the environment. Sweeping and dry dusting should be eliminated and in their place either wet mopping or wet pick-up vacuum cleaners should be substituted.

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Smoking Habits . . .

*. . . and Health in Kansas and Other Central States**

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THE KANSAS DIVISION of the American Cancer Society, together with 28 other divisions, is cooperating in a prospective epidemiological study aimed at identifying factors related to the occurrence of cancer and other diseases. Smoking is one of many environmental factors included in the investigation and we have recently published findings on the subject during the first 34 months of follow-up.¹ In this paper, we will present some of the findings in the Kansas segment of the study.

During the latter part of 1959 and early 1960, volunteer workers of the Kansas Division of the American Cancer Society enrolled 25,514 men and women, the mean date of enrollment being November 20, 1959. The study area encompasses 71 of the 105 counties in Kansas. Upon enrollment, each subject answered a detailed questionnaire covering factors such as family history, history of disease, physical complaints, education, occupational exposure, height, weight, exercise, diet and various habits. The subjects are traced once a year and are requested to fill out brief questionnaires once every two years. In the most recent completed follow-up, 98.38 per cent of the subjects were traced through September 30, 1962. (The next follow-up was started October 1, 1963, and is still in progress.) When a death is reported, we request the Kansas State Department of Health to supply us with a copy of the death certificate; and when cancer is mentioned on a death certificate we request the doctor to supply additional information.

The Kansas portion of the report is confined to the records of 10,506 men between the ages of 40 and 89 who were traced September 30, 1962. Of these 10,506 men, 451 (4.3 per cent) were reported to have died, and we now have copies of the death certificate on 431 of them. Cancer was mentioned on 83 of the certificates and doctors have provided additional information on 84 per cent of them.

Physical Complaints

A list of various physical complaints was printed on the first questionnaire (which was completed at the time of original enrollment) and the subject was

asked to check "yes" or "no" after each of them to indicate whether or not he had the complaint "at present." Those who had a complaint were asked whether it was "slight," "moderate" or "severe." Of the 10,506 men between the ages of 40 and 89, 2,952 said that they were currently smoking 20 or more cigarettes a day and 2,941 said that they had never smoked regularly. Table 1 shows the number and per cent of these smokers who reported having various complaints and the per cent of non-smokers

The study presented here was made possible by the cooperation of the men who volunteered as subjects; volunteer workers of the American Cancer Society who enrolled and traced the subjects; the health departments of Kansas, Minnesota, Iowa and Missouri that provided copies of death certificates, and many physicians who provided additional information relating to deaths from cancer.

who reported having the complaints. The percentages for the non-smokers have been adjusted to the age distribution of the cigarette smokers (this being necessary for comparability since the non-smokers tended to be older than the cigarette smokers).

Cough, shortness of breath and pain or discomfort in the chest were all reported far more frequently by the cigarette smokers than by the non-smokers, the ratio being 4.23 to 1 for cough, 2.04 to 1 for shortness of breath and 1.47 to 1 for pain or discomfort in chest. Considering only subjects who reported these complaints to a moderate or severe degree, the ratios were 5.86 to 1 for cough, 2.86 to 1 for shortness of breath and 1.68 to 1 for pain or discomfort in chest. These findings are consistent with findings in histologic studies of changes in lung tissue in relation to cigarette smoking.^{2,3} Such studies have shown a high degree of association between cigarette smoking and (1) hyperplasia and the occurrence of cells with atypical nuclei in bronchial epithelium, (2) hyperactive glands in the walls of

*From the Kansas Division of the American Cancer Society and the Statistical Research Section of the Medical Affairs Department of the American Cancer Society, Inc.

TABLE 1
PHYSICAL COMPLAINTS REPORTED AT ORIGINAL ENROLLMENT BY 2,952 KANSAS MEN
WHO SMOKED 20 OR MORE CIGARETTES PER DAY AND BY 2,941
KANSAS MEN WHO NEVER SMOKED REGULARLY

<i>Physical Complaint</i>	<i>Cigarette smokers with complaint</i>		<i>Non-Smokers With</i>	<i>Ratio (b) ÷ (c)</i>
	<i>No. of Men (a)</i>	<i>Per cent (b)</i>	<i>Complaint Per cent (c)</i>	
Cough (slight, moderate, severe)	1,770	60.0	14.2	4.23
Cough (moderate or severe)	866	29.3	5.0	5.86
Shortness of breath (slight, moderate or severe)	1,035	35.1	17.2	2.04
Shortness of breath (moderate or severe)	431	14.6	5.1	2.86
Pain or discomfort in chest (slight, moderate or severe)	503	17.0	11.6	1.47
Pain or discomfort in chest (moderate or severe)	189	6.4	3.8	1.68
Loss of appetite	193	6.5	2.0	3.25
Pain in stomach	497	16.8	12.9	1.30
Indigestion	1,005	34.0	24.7	1.38
Nausea or vomiting	166	5.6	3.5	1.60
Fatigue easily (slight, moderate or severe)	1,204	40.8	28.9	1.41
Fatigue easily (moderate or severe)	653	22.1	13.2	1.67

bronchial tubes, and (3) changes in the lung parenchyma including rupturing of alveolar septums, fibrosis and thickening of the walls of arterioles and small arteries.

Loss of appetite was reported over three times as frequently by cigarette smokers as by non-smokers.

A number of other physical complaints such as nausea or vomiting, pain in stomach, indigestion and a tendency to "fatigue easily" were also reported somewhat more frequently by cigarette smokers than by non-smokers. The picture in general indicates that cigarette smokers, as a group, tend to feel less physically fit than do non-smokers.

Hospitalization

At the time of the second follow-up (approximately two years after the start of the study) surviving subjects were requested to fill out a second questionnaire. On this questionnaire, they were asked whether or not they had been hospitalized since October 1, 1959 (the date the study was started). We assumed that all those who died had been hospitalized prior to death, this being true in the great majority of cases.

In Table 2, Kansas men aged 40 to 69 are classified in groups by their smoking habits as reported on the first questionnaire; and the per cent hospitalized is shown for each of these groups. For comparability, the percentages have been standardized for age on the basis of the age distribution of all the men in the study.

Only 17.5 per cent of the men who never smoked

TABLE 2
PER CENT OF MEN HOSPITALIZED BETWEEN
START OF STUDY AND SECOND FOLLOW-
UP (APPROXIMATELY TWO YEARS).
KANSAS MEN AGED 40-69 AT START OF
STUDY. PERCENTAGE ARE STANDARDIZED
FOR AGE ON THE TOTAL POPULATION
OF ENROLLEES IN THE STATE

<i>Smoking Habits</i>	<i>Percent Hospitalized</i>
Never Smoked Regularly	17.5
Cigar, Pipe (no cigarettes)	18.5
Cigarette and Other	21.0
Cigarette only	22.1
Current Cigarette*	22.2
Less than 20 a day	20.7
20 + a day	22.5
Do not Inhale	17.6
Inhale slightly	19.9
Inhale moderately	22.5
Inhale deeply	26.5
Age Began Smoking:	
20 or older	21.9
15-19	21.7
Before age 15	25.7

* Men with a history of only cigarette smoking who were currently smoking cigarettes at the time of enrollment.

were hospitalized within two years while 22.1 per cent of the men with a history of only cigarette smoking were hospitalized during the same period of time. Among current cigarette smokers, the risk of hospitalization increased with amount of smoking from 20.7 per cent for those who smoked less than 20 cigarettes per day to 22.5 per cent for those who smoked 20 or more cigarettes per day. The per cent of men hospitalized was greater among cigarette smokers who said that they inhaled deeply than among those who said that they did not inhale or inhaled only slightly; and was greater among men who started to smoke cigarettes early in life than among those who started to smoke later in life.

Mortality

A statistically meaningful analysis of death rates in relation to smoking habits requires a large number of subjects. Therefore, we combined the Kansas segment of the study with the segment from Minnesota, Iowa, and Missouri, the other states in the study. In these four states we enrolled and traced a total of 88,045 men in age group 40 to 89; and 4,153 of these died between the start of the study and September 30, 1962.

Table 3 shows the men classified by type of smoking (lifetime history). The figures under the heading "observed" are the actual number of deaths reported from the start of the study through September 30, 1962. Figures under the heading "expected" are the number of deaths which would have occurred if the age-specific death rates in each group had been the same as the age-specific death rates of men who never smoked regularly. In other words, the age-specific death rate of the non-smokers is taken as a standard for comparison. The mortality ratio is the observed number of deaths divided by the expected number of deaths. By definition, the mortality ratio of the non-smokers is 1.00.

Men with a history of only cigarette smoking had by far the highest death rates (as indicated by their

high mortality ratios). In age group 40 to 69, the death rate of such cigarette smokers was 84 per cent higher than the death rate of non-smokers; and in age group 70 to 89 the death rate of such cigarette smokers was 33 per cent higher than the death rate of non-smokers (*Figure 1*).

The death rate of men who smoked cigarettes and also smoked pipes or cigars (i.e. the "cigarette and other" group) was somewhat lower than the death rate of men who smoked cigarettes only. This is accounted for by the fact that men with mixed smoking habits tend to smoke fewer cigarettes per day, and tend to inhale the smoke less deeply than do men who smoke only cigarettes.

The death rate of pipe and cigar smokers was just about the same as the death rate of non-smokers. This appears to be due to the fact that the great majority of pipe and cigar smokers do not inhale the smoke or inhale it only to a slight degree.

Table 4 shows further details on current cigarette smokers (i.e. men who were smoking cigarettes regularly at the time they enrolled in the study) with a history of only cigarette smoking. It is confined to men between the ages of 40 and 69 for the reason that there were relatively few such cigarette smokers among men in the older age groups. Figures for non-smokers are included to give a basis for comparison.

The mortality ratio increased substantially with the number of cigarettes smoked per day and was substantially higher among cigarette smokers who said that they inhaled the smoke deeply than among those who said that they did not inhale the smoke. The cigarette smokers who took up the habit before they reached their 20th birthday had higher death rates than did cigarette smokers who started the habit later in life.

Death certificates indicated that coronary artery disease accounted for 1,856 (44.7 per cent) of the 4,153 deaths. Deaths from this cause were highly associated with the smoking habits of men in age group 40 to 69 but less highly associated with the

TABLE 3
MORTALITY BY TYPE OF SMOKING (LIFETIME HISTORY)
KANSAS, MINNESOTA, IOWA AND MISSOURI

Type of Smoking (Lifetime History)	No. of Men	Age 40-69			Age 70-89		
		No. of Deaths		Mort- ality Ratio	No. of Deaths		Mort- ality Ratio
		Obs.	Exp.		Obs.	Exp.	
Never Smoked Regularly	19,120	512	512.0	1.00	3,458	530.0	1.00
Pipe, Cigar Only	7,047	222	229.0	0.97	2,253	349	0.99
Cigarette and Other	17,421	654	434.4	1.51	1,579	267	1.22
Cigarette Only	35,625	1,342	728.0	1.84	1,542	277	1.33
Total	79,213	2,730	1903.4	1.43	8,832	1,423	1.09

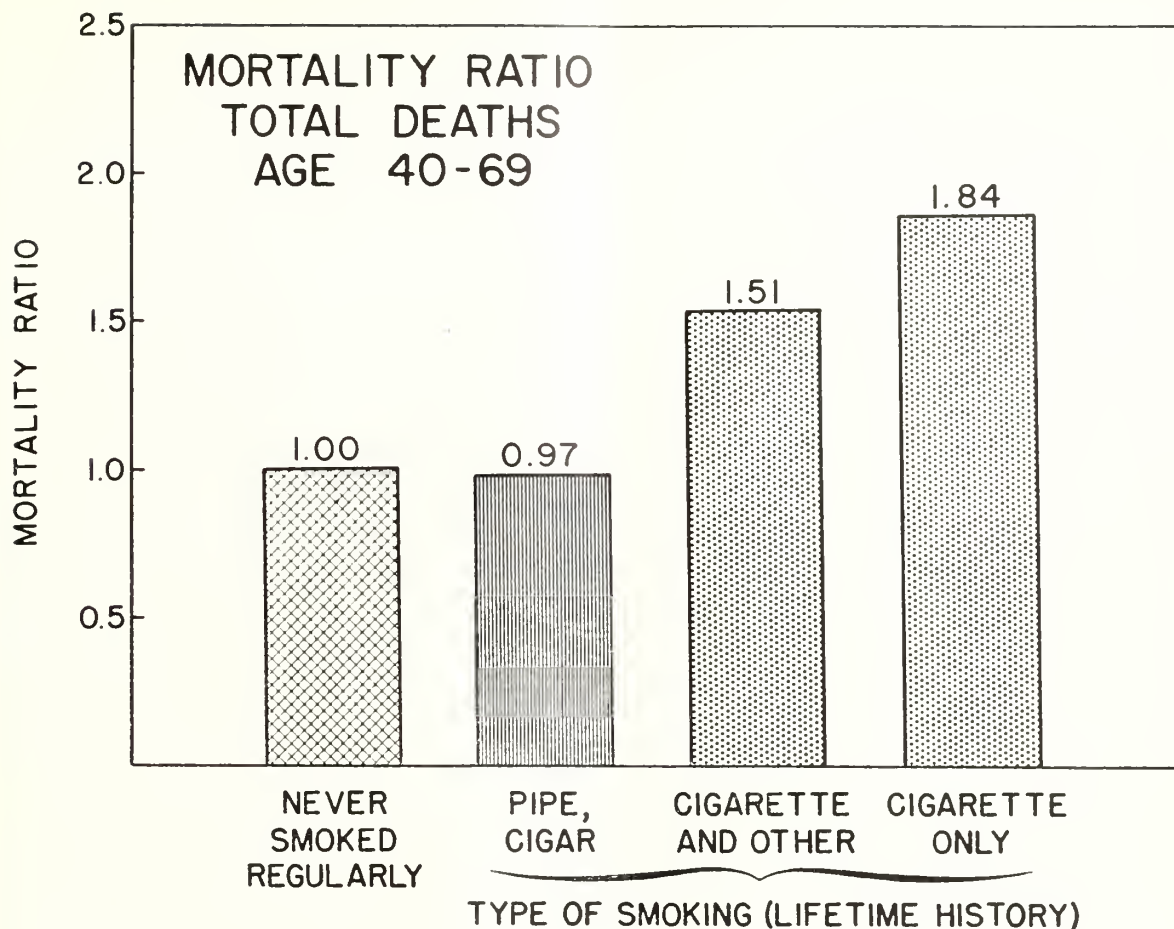


Figure 1

smoking habits of men in age group 70 to 89. In age group 40 to 69, the coronary artery disease mortality ratios were: 1.00 for men who never smoked, 1.21 for pipe and cigar smokers, 1.67 for men who smoked cigarettes and also smoked pipes or cigars and 1.91 for men who smoked only cigarettes. The corresponding mortality ratios for men in age group 70 to 89 were 1.00, 1.01, 1.18 and 1.08 respectively. Among cigarette smokers, the death rate from coronary artery disease was related to the degree of inhalation. For example, among cigarette smokers in age group 40 to 69, the mortality ratio was 1.50 for those who said that they did not inhale the smoke and 2.10 for those who said that they inhaled deeply.

Lung cancer accounted for the death of 147 men (129 in age group 40 to 69 and 18 in age group 70 to 89). All but seven of these men were smokers (six smoked only pipes or cigars and 134 had a history of regular cigarette smoking). The lung cancer death rate was eight times as high among men with a history of only cigarette smoking as among men who never smoked; and the lung cancer death rates of cigarette smokers increased greatly with amount of smoking.

Previous studies have shown a relationship between smoking habits and death rates from cancer of the buccal cavity, pharynx, larynx, esophagus and bladder. Cancer of these sites accounted for 61 deaths. All but eight of these men were smokers (nine smoked only pipes or cigars, 18 smoked cigarettes and pipes or cigars and 26 smoked only cigarettes).

Emphysema was responsible for 66 deaths. Three of these men had never smoked regularly, three smoked only pipes or cigars and 60 had a history of cigarette smoking.

Conclusions

The findings in the study on men in Kansas and the other three states are in good agreement with previous prospective epidemiological studies on smoking in relation to health.⁴⁻⁹ The epidemiological evidence together with evidence from clinical, histologic, and experimental studies indicate that cigarette smoking is a serious hazard to health.^{10, 11, 12}

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TABLE 4
MORTALITY BY AMOUNT OF CIGARETTE SMOKING, DEGREE OF INHALATION
AND AGE BEGAN CIGARETTE SMOKING. AGE GROUP 40 TO 69
KANSAS, MINNESOTA, IOWA AND MISSOURI

<i>Current Cigarette Smoking</i>	<i>No. of Men</i>	<i>No. of Obs.</i>	<i>Deaths Exp.</i>	<i>Mortality Ratio</i>
Cigarettes per Day:				
1-9	2,562	96	62.2	1.54
10-19	5,162	209	114.1	1.83
20-39	15,585	569	280.9	2.03
40+	2,943	103	44.8	2.30
Degree of Inhalation:				
None	1,835	67	48.0	1.40
Slight	3,900	161	89.7	1.79
Moderate	14,495	528	266.3	1.98
Deep	5,941	214	96.2	2.22
Age Began Cigarette Smoking:				
25+	2,615	97	63.8	1.52
20-24	6,577	217	128.0	1.70
15-19	13,567	509	241.6	2.11
<15	2,679	110	50.8	2.17
Never Smoked Regularly	19,120	512	512.0	1.00

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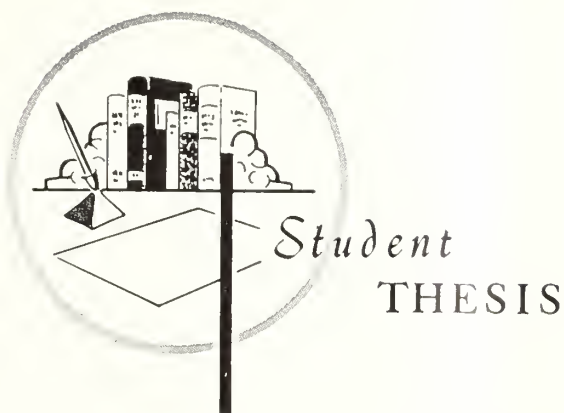
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Fat Embolism: An analysis of cases seen at University of Kansas Medical Center from 1951 to 1962

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THE WORKS OF MAGENIE (1836), Zenker (1862), Scriba (1880), Warthin (1913) and Robb-Smith (1941) stimulated vast interest in fat embolism. Since this time the medical literature has produced numerous articles discussing and describing this controversial and confusing entity. Much of the confusion inscribing this subject is due to lack of communication between pathologists and clinicians when describing fat embolism.

To the pathologist, fat embolism is a condition in which fat appears in the circulating blood, not in the fine physiologic emulsion, but in discrete droplet form large enough to plug the capillaries and small arterioles, usually 10 to 15 micra or larger.

Fat embolism is also a clinical syndrome most commonly characterized by dyspnea, disorientation with varied neurological findings, and petechial hemorrhages, associated with a history of trauma.

Another source of confusion concerning fat embolism is the lack of realization that pathologic proof of fat embolism may be found without clinical signs and symptoms, but pathologic proof is never absent in the presence of clinical signs and symptoms.

Pathology

The pathologist, in evaluating a suspected fat embolism death, must uphold rigid restrictions in

making this diagnosis since fat embolism has legal precedence as an accepted immediate cause of death. Fat embolism, is therefore, seldom considered an incidental finding at autopsy. The following points should be satisfied for a diagnosis of fat embolism pathologically:

1. The fat must be intravascular.
2. The fat must be in discrete droplet form.
3. The fat should be contained in capillaries and arterioles, not in larger vessels.
4. When using a stain such as Sudan III, the fat must be dyed bright red, not a vague orange haziness.

The pathological findings plus the clinical history warrant a diagnosis of fat embolism in two clear cut situations:

1. Trauma with fracture followed by sudden death.
2. Trauma with fracture followed by development of signs of shock, hyperthermia, decreased hemoglobin, petechial hemorrhages, and pulmonary edema within 24 to 48 hours.

Pathologists at our institution feel that the most dramatic evidence of fat embolism as being an immediate cause of death is multiple petechial hemorrhages in the brain, and a rather peculiar hemorrhagic edema of the lungs in association with a typical clinical history. Dilatation of the right heart is a consistent finding at autopsy of patients dying of fat embolism. Other findings are renal vascular and tubular fat emboli, although renal failure is rarely a complication, and on occasion embolic fat in organs such as adrenal, pancreas, and thyroid.

This essay presents 49 cases of fat embolism diag-

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Wertzberger recently completed his internship at the St. Luke's Hospital, Kansas City, Missouri, and is presently an orthopedic resident at the University of Kansas Medical Center.

nosed by the pathologist at autopsy. Also included are three cases of fat embolism diagnosed clinically.

Incidence and Etiology

Age is thought to be an important point to consider in making the diagnosis of fat embolism, the most likely suspect being a person in the second to fifth decade who has received skeletal trauma. This series contains patients of ages evenly distributed from the first decade to the tenth decade, thus, not substantiating age as being an important factor in diagnosis.

Fat embolism is not commonly considered as a diagnosis in children receiving traumatic injuries. This series contains four children (7.5 per cent) with injuries consisting of traumatic amputation of the right lower leg, skull fracture, skull fracture with subdural hematoma, and third degree burns over 75 per cent of the body. The three patients with fractures died suddenly within 15 hours post injury and the burn patient died suddenly nine months later during plastic repair of the scars. Deland reported fat embolism in 90.6 per cent and bone marrow embolism in 15.6 per cent of a group of children under ten years of age who died as a result of trauma. Total blood lipids reach adult levels between the ages of 3-11 years with only minor constituent differences present. There is little reason to believe that fat embolism does not occur as frequently in children as in adults.

Fat embolism occurs most frequently after traumatic injuries with fractures, often of the long bones. In our series, 43 out of 52 patients had fractures. Warren reported 100 cases of fat embolism in war trauma in which 91 were associated with fractures. Lynch reported fat embolism in 93.75 per cent of all types of trauma and 24.1 per cent of soft tissue trauma. Fat embolism is not uncommon after burns, minimal soft tissue injury, and surgical procedures. It has been reported following orthopedic surgery, abdominal and thoracic surgery, and radical mastectomy.

In the case of obvious fracture, the origin of circulating fat is thought to be from the marrow cavity of the bone involved and surrounding fat-containing tissues. There is fragmentation of tissue and vessels surrounding the fracture site followed by extravasation of blood elements. With the formation of a hematoma at the fracture site, there is a shift in local hydraulic pressure from a higher intravascular pressure to a higher extravascular pressure. This increase in pressure at the injury site allows for intravasation of fat into the systemic circulation.

This represents the mechanical theory of intravasation of fat into the systemic circulation. This theory is also attractive in explaining fat embolism in other types of trauma such as soft tissue trauma, in which there is disruption of fat-containing tissue and vessels allowing for local changes in hydraulic pres-

sure. Burn patients receive damage to the underlying panniculus adiposus releasing fat cells at the site of injury. Fibrosis and scar formation contribute to increased local pressure and intravasation of fat cells. Our burn patient, although apparently not demonstrating this mechanism, did develop fat embolism at surgery. Surgical procedures with incision and manipulation of bones and fatty tissue can cause significant lipemia and fat embolism.

Rappaport reported 200 cases of traumatic death in which six per cent had pulmonary bone marrow emboli consisting of clumps of hematopoietic cells inside pulmonary vessels. Fat embolism is accompanied by bone marrow embolism in about five per cent of the cases. In this series, six of the patients had associated bone marrow embolism, three occurring with fractures and three with no obvious trauma.

Lehman in 1927 described fat embolism as being non-traumatic in nature. He believed fat embolism to be a common physiological occurrence secondary to de-emulsification of body lipids causing aggregates of fat globules in the blood. Since Lehman's report fat embolism has been reported in a variety of conditions although experimental attempts to duplicate his findings have not been conclusive.

Fat embolism does not occur in greater incidence after trauma in patients with diseases associated with elevated blood lipid levels. Peltier has shown experimentally, in rabbits, that the severity of fat embolism after fractures is not increased if blood lipid levels are raised. These facts raise objections to Lehman's theory.

Haymaker described fat embolism occurring in association with the decompression syndrome. Nitrogen is dissolved in body fat in significant quantities, and with a sudden decrease in partial pressure of blood nitrogen (by decompression) fat embolism occurs. This is due to rupture of fat cells by bubbles of escaping nitrogen dissolved in the fat under previously normal pressure, rendering fat accessible to circulating blood. Our patient with the decompression syndrome (Case No. 3) was extremely obese making him a prime candidate for fat embolism by this mechanism.

Recently interest has been focused on the association of fat embolism to chronic alcoholic cirrhosis. Lynch reported fat embolism in 9.5 per cent of patients with alcoholic cirrhosis. The source of the fat in these cases is believed to be rupture of fatty cysts in the liver. It has been demonstrated in choline deficient rats that when liver cells become engorged with fat the cell walls can rupture with coalescence of neighboring cells to form fatty cysts. These cysts in turn may rupture and discharge globules of fat into hepatic sinusoids, whence they are carried to lungs, brain, kidneys, and heart. Fat embolism has also been associated with other conditions producing fatty liver including carbon tetrachloride and phosphorus poisoning. Lynch postulated fat embolism to be a

major factor in the etiology of alcoholic psychosis and delirium tremens. This series contains one case of alcoholic cirrhosis although ten of our patients demonstrated fatty metamorphosis of the liver at autopsy, six with fractures and four without fractures.

Warthin described fat embolism in association with hemorrhagic pancreatitis with fat necrosis which our patient demonstrated. Fat necrosis with hemorrhage renders fat cells open to systemic circulation.

Fat embolism is not uncommon in metastatic bone disease. Our patient had carcinoma of the prostate with metastatic lesions to the spine. He also had bone marrow embolism associated with fat embolism. The concurrence of these embolic substances occur as a consequence of metastases producing trauma to the red marrow containing vertebrae. The venous circulation of the vertebrae is separated from the medullary sinusoids only by a thin endothelial layer so access of marrow elements and bone fat to the systemic circulation is great with only minimal trauma. This mechanism also explains the incidence of fat and bone marrow embolism following electroshock therapy with generalized convulsions and resultant vertebral fracture. This series contains one such case (See Case No. 4).

Fat embolism occurs with abscesses of bone and osteomyelitis. Rise in intramedullary pressure is accomplished by active inflammatory reaction in bone marrow. With increased vascularity and dissolution of the cell membranes by bacterial enzymes fat may be introduced into the circulation.

The literature contains no report of fat embolism associated with myotonia dystrophica. The patient in this series had an overwhelming bronchopneumonia which was considered the primary cause of death. At autopsy the patient demonstrated advanced fatty infiltration of muscles, fatty metamorphosis of the liver, and multiple pulmonary fat emboli. Minimal trauma, in this case, would be sufficient to release fat cells into the systemic circulation and with associated fatty metamorphosis explains well the presence of advanced fat embolism.

Fat embolism has been reported as the etiology of fatal myocardial infarction. This series contains three patients with arteriosclerotic heart disease with myocardial infarction, hyperthyroidism, and emphysema which demonstrated varying degrees of pulmonary fat emboli at autopsy. All three patients died in congestive heart failure. Satisfactory explanation of pulmonary fat embolism in these cases is not possible at this time although the patient with hyperthyroidism demonstrated fatty metamorphosis of the liver. The patient with emphysema demonstrated unexplainable associative bone marrow emboli.

The above cases show the incidence of fat embolism in a wide variety of pathological conditions.

Obvious trauma to bone and fat-containing tissue cause fat embolism in a high percentage of cases. There are many other conditions in which trauma to bone and fat-containing tissue occurs in a less obvious manner, that is at a cellular level. Fat embolism should be entertained as an occurrence with a high degree of suspicion in conditions where there is obvious or only suspected disruption of bone and fat-containing tissue.

Clinical Syndrome

The clinical manifestations of fat embolism may begin from a few hours to two to four days post injury or post-manipulation. Disorientation or anxiety may be the first signs noted. Pulmonary symptoms may develop early with marked dyspnea, tachycardia, and possibly cyanosis. Shock may be present in the early stages of embolization, and is accompanied by right heart failure. The patient may develop a cough with blood tinged sputum and become toxic with high fever.

Cerebral fat embolism produces varied and diffuse neurological findings from confusion to coma. The patient may develop incontinence, convulsions, pupillary changes, spasticity, change in deep tendon reflexes, pathological reflexes, or paralysis. These signs are usually generalized and localization of the cerebral lesion is not possible. These varied neurological responses make differential diagnosis of intracranial trauma and hemorrhage difficult.

Petechial hemorrhages may appear from the second to fourth day. Distribution of skin petechiae is unique in that it is usually limited to the neck, shoulders, axilla, chest, and occasionally the groin area. Petechial hemorrhages and exudates are seen in the fundus occasionally. With the appearance of the petechiae there is a sharp drop in hemoglobin levels believed to be due to hemorrhage in the lungs during the late phase of fat embolism.

Chest x-rays during both acute and late phase of fat embolism are important in making the diagnosis. Patients with pulmonary symptoms demonstrate multiple, small areas of decreased translucency or diffuse haziness throughout the lung fields. These areas are hazy in outline and are usually reported by the radiologists as pneumonia. During the acute phase of embolization, the chest x-ray may also demonstrate right heart dilatation.

The x-rays in *Figures 1* and *2* demonstrate typical findings of acute pulmonary fat embolism. The first x-ray was taken on admission. This patient was a 28-year-old male who had sustained a fracture of the right femur which was internally fixed. Immediately after surgery he became cyanotic, dyspneic, disoriented, and quite agitated. His pulse was 140, blood pressure 140/80, respirations 40, and temperature 103° F. Urinary fat studies were not done. Serial

EKGs were done, and were compatible with pulmonary embolism. The patient made an uneventful recovery with oxygen therapy within 24 hours.

Serial electrocardiograms may be helpful in diagnosing pulmonary fat embolism. Changes in EKG patterns are due to overload of the right ventricle and are typically: tachycardia, peaked P waves, sudden appearance of S wave in lead I, Q wave in III, and shift of the transition zone to the left. Arrhythmias are common. T wave inversion and RS-T segment depression probably indicates severe right ventricular overloading.

An electrocardiogram was obtained from a patient with pulmonary fat embolism (Case No. 2). Prominent features of this tracing were peaked P waves in leads II, III, and aVf, transition vector at V4, inversion of T waves in leads III, and aVf, and flattened T waves over the precordium.

Laboratory

The laboratory may aid in making the diagnosis of fat embolism although as yet no specific test has been found. Probably the most reliable test is for the presence of fat droplets in the urine. The urine specimen must be a completely voided specimen since fat floats on the surface of the urine, thus detectable in only the last portion obtained. It may be demonstrated microscopically or macroscopically with Sudan III or Phosphor 3R fat stains. Lipuria usually occurs maximally in the first four days following injury and its presence is a good indication that fat embolization has occurred. This test is thought to correspond to the immediate (mechanical) phase of fat embolism.

The demonstration of fat droplets in the sputum is

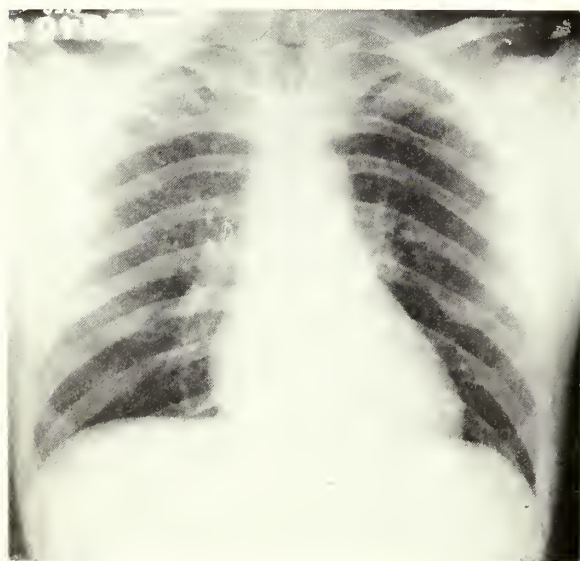


Figure 1



Figure 2

of limited diagnostic value in the diagnosis of pulmonary fat embolism, contrary to earlier beliefs. Fat is found in the sputum of a high percentage of normal people, various diseases, and following the ingestion of fatty foods.

Serum lipase levels have diagnostic value in pulmonary fat embolism. Elevation in serum lipase after the fourth day post injury indicates pulmonary fat embolism and is said to correspond to the late (chemical) phase of fat embolism when lipase is released and hydrolyzes neutral embolic fat. The precipitous drop in the hemoglobin levels during the late phase of fat embolism has already been mentioned.

Pathogenesis

Patients developing symptoms and signs or expiring of fat embolism during the first 24 hours post trauma demonstrate the mechanical phase of fat embolism. Within minutes after injury circulating fat globules appear in the blood. The larger fat globules (10-15 micra) block the lung capillaries which measure about 10 micra in diameter. If the embolization and blockage of lung capillaries is severe, there is increased resistance to blood flow resulting in increased pulmonary artery pressure. The heart attempts to compensate by increasing the output, leading to increased diastolic filling of the right heart. This chain of events leads to shock and right heart failure which is the cause of death in the mechanical phases of fat embolism.

Patients who survive the mechanical phase of fat embolism or in whom the initial embolization is slight may develop symptoms and signs after a latent period of two to four days. This represents the chemical

(late) phase of fat embolism and is due to chemical change of the embolic fat. Lipase, secreted by the lung parenchyma, hydrolyzes the neutral embolic fat to free fatty acids. Peltier has shown free fatty acids to be eight times more toxic than neutral fat and that free fatty acids cause disruption of capillary endothelium allowing hemorrhage into lung parenchyma. The precipitous drop in hemoglobin during the late phase of fat embolism is associated with gross hemorrhage in the lungs. The immediate cause of death during the late phase of fat embolism is apparently due to reduced vital capacity of the lungs secondary to hemorrhagic infarcts. Twenty-six patients of this series demonstrated hemorrhagic edema and infarcts of the lungs although fat embolism was not considered the primary cause of death in all cases.

Differential Diagnosis

Differential diagnosis may present perplexing problems because of the high association between cranio-cerebral trauma and fracture of the long bones. Cerebral concussion, intracranial hematoma, and delirium tremens may be difficult to distinguish from fat embolism. Skull x-ray, arteriography and surgery, to rule out intracranial hemorrhage, may indeed be the only way to make the diagnosis.

Treatment

Prevention and attempts at minimizing the occurrence of fat embolism is the treatment of choice since there is no definitive treatment for fat embolism at this time. Careful handling of injuries, gentle manipulation, proper splinting, and minimal moving of the patient are of prime importance in prevention. Peltier has demonstrated experimentally and in patients that the use of pneumatic tourniquets in orthopedic surgical procedures significantly reduces fat embolization.

Elevation of the injured limb may prevent the lighter fat droplets from entering the circulation. Ligation of the profunda femoris vein has been performed in an attempt to prevent fat embolization after femoral fractures. There is controversy as to whether fat solvent anesthetics such as ether, cause or potentiate the occurrence of fat embolism. Recent experiments indicate that ether plays an insignificant role in the pathogenesis of fat embolism.

The treatment of established cases of fat embolism lies in supportive care. Adequate oxygenation, prevention of shock, digitalization for heart failure, and fluid and electrolyte replacement are of prime importance.

Intravenous alcohol five per cent in dextrose five per cent is used as a lipase inhibitor and vasodilator of pulmonary capillaries. Inhibition of lipase will de-

crease the amount of enzyme available for hydrolysis of relatively non-toxic neutral fat to toxic free fatty acids. Infusions of calcium ions have been used to immobilize the free fatty acids as calcium soaps. This treatment is good in theory, but unfortunately, embarrassment of pulmonary blood flow in local areas of free fatty acid formation prevents the calcium ions from combining with the fatty acids.

Heparin has been used for the treatment of fat embolism. It has been shown to accelerate the mobilization of embolic fat but its use can be hazardous due to possibility of further lung and cerebral hemorrhage.

Case Reports

CASE NO. 1

G. M., a 40-year-old white female was admitted to University of Kansas Medical Center (KUMC) on April 4, 1959, after falling at her home and noting severe pain in her left hip with inability to bear weight. The patient had polio at age six and had residual leg weakness and drop foot gait. Physical examination revealed one inch shortening of the left leg and external rotation with pain on motion. There was bilateral weakness in dorsiflexion of the feet.

The CBC, UA, BUN, FBS, and chest x-ray were normal. X-ray of the left hip revealed intracapsular fracture.

The patient was noted to be quite apprehensive approximately 24 hours after injury. She was taken to surgery on April 6, 1959, where a Smith-Petersen nail procedure was performed on the left hip. The patient awakened from anesthesia and was returned to the ward where she was considered to be recovering satisfactorily. The patient was found three hours post surgery cyanotic and apneic.

At autopsy massive pulmonary fat embolism with acute right heart dilation was demonstrated.

CASE NO. 2

J. H., a 19-year-old white male student was admitted to KUMC on March 23, 1954, after a fall in gym class and incurring a transverse fracture at the junction of mid and lower third of the left femur.

CBC and UA were normal. Fat globules were found in the urine on the evening of admission. Hepatogram was normal. Chest x-rays were not taken at this time. EKG showed changes compatible with pulmonary embolism.

The patient was taken to surgery, a Steinman nail was placed in the left femur, and he was placed in traction. Approximately 24 hours later the patient became lethargic, disoriented, and incontinent of urine. There were no complaints of pain or discomfort. The blood pressure was 180/80 with a pulse of 90 and temperature of 100.2° F. The reflexes were

normal, fundi normal, and the pupils were reactive. At 36 hours post injury the patient became cyanotic, confused, dyspneic, and extremely restless. He was placed in an oxygen tent. He soon developed petechial hemorrhages on the chest and shoulders. There was an increase in petechiae with an associated increase in respirations, pulse, blood pressure, and temperature. He was given intravenous (IV) atropine and papaverine. About 48 hours post injury and manipulation the patient showed slight improvement although the petechial hemorrhages increased slightly and light scleral jaundice developed. Progress gradually improved and the fracture healed satisfactorily and the patient was dismissed in a hip spica after removal of the pin on April 26, 1954.

CASE NO. 3

J. C., a 32-year-old white, chief petty officer in the U. S. Navy who, while flying at 33,000 feet in an unpressurized cabin, noted sudden onset of pain in the left knee, followed by dyspnea, lower and mid-abdominal pain, nausea and weakness. His symptoms persisted throughout the flight from Pennsylvania to Olathe Naval Station and he was admitted to KUMC five hours after the onset of symptoms.

Physical examination revealed an extremely obese, five foot five inch, 240 pound, conscious white male who was in acute distress with cyanosis and abdominal pain. Blood pressure was unobtainable, pulse was 130, and respirations were 30. The skin was cold and moist. Pupils were reactive and fundi were normal. The chest revealed moist rales with prolonged expiratory phase and expiratory wheezes bilaterally. The heart tones were muffled and distant with a tachycardia. Abdominal examination was negative with exception of pain. The extremities were cyanotic with tenderness of the left calf. Neurological examination was negative with exception of some facial weakness and difficulty in swallowing.

The clinical impression at that time was severe shock secondary to pulmonary emboli or multiple air emboli and myocardial infarction.

The patient was treated with Aramine® 10 mg. in five per cent dextrose in water with Levophed® amps. II. The blood pressure improved to 130/80 and pulse slowed to 50. Terminally he was treated with atropine, papaverine, aminophylline, cedilanid, hydrocortisone 100 mg. IV and Cortef® 100 mg. with positive pressure oxygen and morphine. Despite these efforts the blood pressure dropped one and one-half hours later and was unobtainable. His pulmonary edema cleared initially only to recur. He terminally went into ventricular fibrillation and despite cardiac massage no ventricular beats could be re-instituted. The patient died at 8:35 p.m., on December 26, 1958, four hours after admission and nine hours after onset of symptoms.

At autopsy multiple fat emboli were found in the lungs and kidneys, with hemorrhagic edema of the lungs. Both sides of the heart were dilated, most on the right side. There was fatty metamorphosis of the liver.

Comment: With methods of measuring total body water and nitrogen, it has been found that in a person weighing 70 kg., the normal molecular nitrogen content of tissues is approximately 1,080 cc. The patient weighed 108 kg. Assuming that only half of his increase in weight was due to increase in fat deposits, the nitrogen content of the tissues in this patient would be about 2,100 cc., that is, 1,716 cc. of fat nitrogen and 384 cc. of fluid nitrogen. These high values of N₂ may account for a large release of N₂ while the patient was decompressed, resulting in disruption of fat cells and pulmonary fat emboli.

CASE NO. 4

T. S., a 48-year-old white male was admitted to KUMC on June 19, 1955, with a chief complaint of pain in the right shoulder of two years' duration. Two and one-half years prior to admission the patient had a right upper lobectomy and since this operation he has had a dull drawing pain at the tip of his right scapula. This pain is apparently constant and has made him very nervous and depressed. Physical examination revealed a chronically ill male who aerated the right lung poorly with expiratory wheezes throughout the lung fields. The liver was palpable four fingerbreadths below the right costal margin and there were three plus pitting edema of the ankles. The patient had chronic emphysema.

This patient was submitted to an extensive diagnostic work-up in an effort to rule out organic disease as being the cause of his complaints. When all of the laboratory procedures were normal, psychiatric consultation suggested ECT for his depression. Following his initial shock on June 28, 1955, there was a rather severe reaction consisting of cyanosis, dyspnea, confusion and restlessness which responded rather rapidly to 250 mg. of Aminophylline IV. The following day x-rays of the dorsal spine were taken because of the patient's complaint of pain in the back. Slight compression of the fifth dorsal vertebra was noted. On June 30, 1955, the patient was subjected to the second ECT treatment following which he had mild anoxia but seemed to do well with return of his consciousness to a state of moderate confusion. He became extremely agitated, a more severe degree of dyspnea developed with moist bubbling rales in both lung fields. Blood pressure was unobtainable because of agitation and the pulse was 84. Aminophyl-

Aramine®—Merck Sharp & Dohme, West Point, Pennsylvania.

Levophed®—Winthrop Laboratories, New York City.

Cortef®—Upjohn Company, Kalamazoo, Michigan.

line was given IV with prompt clearing of the lung fields and some return of consciousness. About ten minutes later, the patient developed shock. His respirations stopped and he expired despite the use of intracardiac epinephrine and artificial respiration with pure oxygen. Clinical impression at this time was death due to coronary occlusion with arteriosclerotic heart disease.

At autopsy, massive bone marrow and fat emboli were found in all lobes of the lungs. There was hypertrophy and dilatation of the right atrium and ventricle of the heart.

Comment: Rappaport's study on deaths which followed insulin or electroshock therapy revealed bone marrow embolism in three out of 15 patients. In these cases and in other patients who demonstrated bone marrow and fat embolism following the convulsions of eclampsia, tetanus, or cerebral ischemia, gross fracture of bones were not demonstrated at the time of autopsy. However, as in this case, the necessary meticulous examination of the vertebra, particularly in the anterior portions, was not performed. Although slight compression of the fifth dorsal vertebra was reported in this patient it was, unfortunately, not considered important. As pointed out earlier, the peculiar anatomy of the cancellous bone with large thin-walled blood vessels in direct opposition to marrow tissue would permit embolization of displaced marrow and fat at the site of even a minor fracture into large veins. Rappaport states that in a series of patients carefully studied by x-ray or autopsy following convulsive therapy as many as 50 per cent show evidence of minor vertebral fractures, often not recognizable clinically.

Summary

Fifty-two cases of fat embolism occurring at University of Kansas Medical Center are presented. Four case reports of this condition are presented and used as illustrations of clinical features and etiological factors in fat embolism.

It has been well established that mechanical fat embolization occurs after trauma. Fat embolism is certain to become a more common condition due to an increasing amount of trauma today. Emphasis is placed on the finding of fat embolism in cases in which there is no obvious trauma and that fat embolism occurs at a cellular level due to disruption of fat-containing tissue or bone.

The problem of differential diagnosis is discussed. The importance of laboratory tests such as chest x-rays, EKG, and the search for fat droplets in the urine are stressed. Treatment lies in prevention and supportive measures due to lack of definitive treatment at this time.

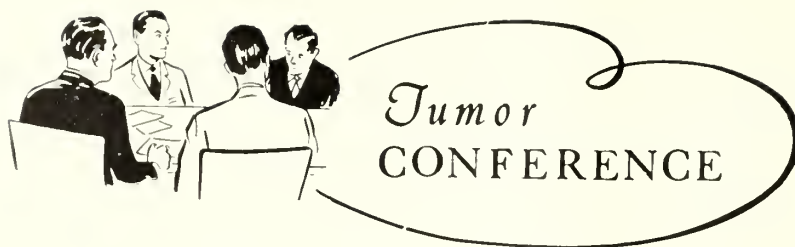
The detection of fat embolism requires foresight of the pathologist, careful handling of tissues and technique at the time of autopsy. It is to be expected that if fat embolism is sought more frequently, the lesion will be encountered more often and its importance more accurately described.

Foresight and a high degree of suspicion must be present for the clinical diagnosis of fat embolism. Fat embolism is becoming a more well defined clinical syndrome and with increased awareness of this condition and better laboratory tests its incidence of diagnosis in clinical medicine will certainly increase.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topcka, Kansas 66603.

Merry Christmas
and a
Happy New Year

THE JOURNAL OF THE
KANSAS MEDICAL SOCIETY



Hashimoto's Struma and Carcinoma of the Thyroid

Edited by JAMES M. FLYNN, M.D., *Kansas City, Kansas**

Dr. Roger Youmans (Surgery Resident): This 43-year-old white woman was referred to KUMC for evaluation of thyroid enlargement which was noted on a pre-employment physical examination in June, 1963. She had no complaint referable to the thyroid enlargement. There was no history suggestive of inflammation in the area and no history consistent with hyperthyroidism or hypothyroidism was elicited.

Physical examination revealed a pulse of 80 which was regular and a blood pressure of 140/110. The thyroid was symmetrically enlarged, irregular in contour and was firm and rubbery to palpation. The voice was normal and there was no evidence of airway obstruction. There was no cervical lymphadenopathy. There was no tenderness about the thyroid or elsewhere in the cervical area. The remaining physical examination was within normal limits.

The protein bound iodine was subsequently determined on two occasions and was 2.6 and 3.1 μ gm. per 100 ml. of whole blood. An I^{131} uptake was 19 per cent in 24 hours. The tracergram was consistent with multiple small nodules.

Dr. Stanley Friesen (Surgeon and Moderator): Let us stop for a moment and evaluate the clinical problem presented by this woman. Briefly, we have a 43-year-old woman with a multinodular goiter with essentially normal laboratory studies thus far. Dr. Youmans, would you tell us the differential diagnosis based on this information?

Dr. Youmans: The differential was between non-toxic nodular colloid goiter, chronic thyroiditis and carcinoma of the thyroid.

Dr. Friesen: What was done to resolve this?

Dr. Youmans: An additional laboratory procedure was done which tended to make Hashimoto's thyroiditis the most likely diagnosis.

Dr. Friesen: What laboratory procedure was this?

Dr. Youmans: A tanned red cell hemagglutination titer of thyroid antibodies was done. The titer was 1/1024.

Dr. Friesen: What are thyroid antibodies?

Dr. Youmans: The antibody in this case is an auto-antibody against thyroglobulin.

Dr. Friesen: Dr. Mantz, can you tell us more about these thyroid antibodies?

Dr. Frank Mantz (Pathologist): It is based on the theoretical concepts developed by Doniach and Roitt who demonstrated the presence of antithyroid antibody in patients with Hashimoto's struma. Since that time a number of investigators have, in effect, confirmed this work but have also shown that antithyroid auto-antibody is present in a number of disorders of the thyroid ranging from simple adenomatous goiter to carcinoma of the thyroid. Thus, these antibodies have no specificity for Hashimoto's struma, however, the magnitude of the titer can be correlated with a probability that Hashimoto's struma is present.

Dr. Youmans: A tanned red cell hemagglutination titer of 1:250 or more occurs in approximately 80 per cent of those individuals with Hashimoto's struma whereas a titer of this magnitude occurs in only approximately 8 per cent or less of those individuals with carcinoma of the thyroid.

Dr. Friesen: Is this an antibody against the protein?

Dr. Mantz: The antibody detected by the tanned red cell technique is an antithyroglobulin. At least two other components are known to stimulate antibody production and they are the intracellular microsomes and also the colloid component other than thyroglobulin. These latter components have been detected by complement fixation and fluorescent antibody techniques.

Dr. Friesen: What happened next?

Dr. Youmans: The patient was placed on thyroid extract and followed in the out-patient clinic. During

* Senior Resident, Department of Pathology, University of Kansas Medical Center.

the next few months a slowly enlarging nodule was noted within the right lobe of the thyroid in spite of the suppressive doses of thyroid extract. She was, therefore, referred to the surgery clinic for further evaluation.

Dr. Friesen: This is the first and most unusual finding in the history thus far aside from the titer of the antibody. One would ordinarily not expect a colloid goiter or multinodular goiter to enlarge while the patient was being treated with suppressive doses of thyroid extract. What was done next?

Dr. Youmans: The patient was admitted to the hospital for exploration of the thyroid gland.

Dr. Friesen: What was the pre-operative diagnosis?

Dr. Youmans: Multinodular goiter.

Dr. Friesen: That is a rather non-specific diagnosis. It is somewhat more specific than when I was a student, however, when Dr. Hertzler simply classified them as acute and chronic goiters. More recently we divide them into diffuse and nodular and toxic and non-toxic goiters.

Dr. Youmans: She was referred to the surgical service with the diagnosis of Hashimoto's thyroiditis; however, the endocrinologists were concerned about the slowly enlarging nodule and considered carcinoma a possibility.

Dr. Friesen: What did the goiter look like at operation?

Dr. Youmans: The right lobe was enlarged, multinodular and quite hard with a woody consistency on palpation. There was no fibrous attachment of the lobe to the surrounding muscles or fascia. The opposite lobe felt exactly the same. A frozen section diagnosis was requested and the pathologist reported "inflammatory, consistent with Hashimoto's thyroiditis."

Dr. Friesen: The right lobe was removed primarily for diagnosis rather than as part of a thyroidectomy?

Dr. Youmans: Yes, that is correct.

Dr. Friesen: Would you tell us about the pathology, Dr. Helwig?

Dr. Ferdinand Helwig (Pathologist): The description of the right lobe of the thyroid was consistent with Hashimoto's thyroiditis. The lobe was moderately enlarged and nodular and was said to be non-adherent to the strap muscles overlying it. On the cut surface the thyroid tissue was pale gray to yellow gray and no definite colloid was identified.

The fairly uniform involvement of both lobes and of the isthmus in a woman in her forties together with this gross appearance is classical for Hashimoto's thyroiditis. The consistency of the gland in this disease may very closely mimic carcinoma. As the inflammatory process goes on year after year, more fibrous tissue is laid down resulting in a very hard gland simulating cancer.

The microscopic appearance of the tissue is also very characteristic. On low power one notes the increased fibrous tissue but the striking feature is the unusual cellularity of the tissue resulting in a picture which can be recognized with difficulty as being thyroid (*Figure 1*). Instead one sees several germinal centers within a tissue which appears mainly lymphoid in character. On high power a follicular pattern can be seen with a diffuse infiltrate of lymphocytes and plasma cells resulting in severe atrophy of the thyroid follicles which are scattered through the

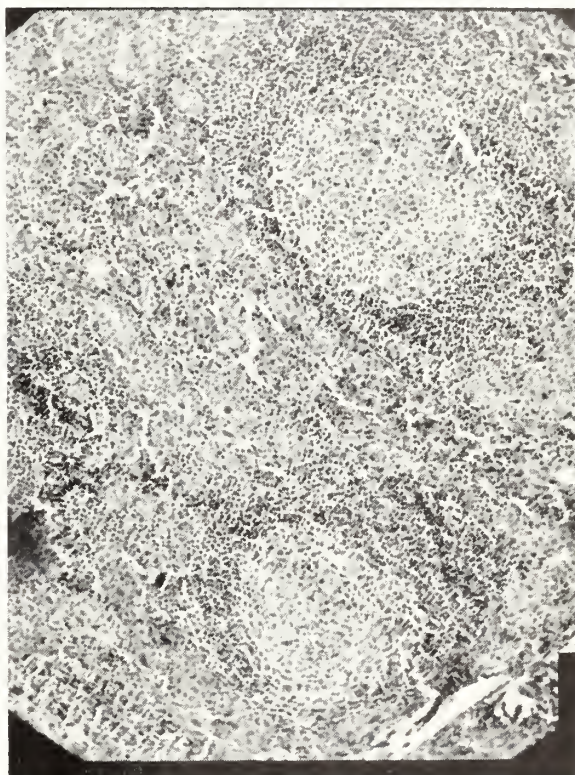


Figure 1. The thyroid follicles are recognized with difficulty due to the dense infiltrate of lymphocytes and plasma cells. Two germinal centers are present.

lymphoid tissue. Many of the follicular epithelial cells are enlarged, and exhibit an eosinophilic cytoplasm and a somewhat irregular nucleus, the so-called Hürthle cells.

It was initially proposed that the thyroid antibody would bear a direct relationship to the severity of the thyroiditis in Hashimoto's struma and would, therefore, be of specific diagnostic significance and also help explain the pathogenesis of the disease. As Dr. Mantz has pointed out, these antibodies are not specific and are detected in other diseases of the thyroid. Further, the experimental evidence in animals suggests that the titer of the humoral or circulating antibody is not directly related to the disease as produced

in animals and it appears most likely the disease is a delayed hypersensitivity phenomenon.

Frequently, as in this case, one has an unusually firm or hard thyroid gland and particularly in the presence of a growing nodule one must resort to an exploratory operation with gross and microscopic examination of the tissue in order to rule out malignancy.

Dr. Friesen: One would expect that corticosteroids, irradiation and other methods of treating the "autoimmune diseases" might be useful in Hashimoto's disease.

Dr. Helwig: Steroids have been used but with very little beneficial effect. In contrast, on the other hand, other forms of thyroiditis frequently respond satisfactorily to treatment with steroids. I can recall many years ago when Dr. Hertzler would treat thyroiditis with quinine and obtain prompt relief. I don't know why it worked but it brought about prompt improvement in some cases.

Dr. Mantz: I would like to comment briefly on the decision to leave the other lobe in place in this case. I believe it should have been removed for two reasons. I believe this is a progressive disease which will ultimately result in myxedema due to total destruction of the other lobe and that it, therefore, will not be of much use to the patient. Secondly, most large studies of Hashimoto's struma have revealed an over-all incidence of carcinoma of about 4 per cent which is considerably above the over-all incidence of thyroid carcinoma in the general population. I believe, therefore, there is justification for removing the other lobe as a prophylactic measure and I would be interested in hearing Dr. Helwig's opinion in this regard.

Dr. Helwig: I agree with you, Dr. Mantz, and would recommend a bilateral subtotal thyroidectomy in cases such as this one. It is true there will be progressive fibrosis and sclerosis with ultimate myxedema and a few will have symptoms arising from tracheal compression.

Dr. Friesen: One could argue that it is just as well to allow the disease to progress to myxedema and then treat the patient with thyroid extract rather than to produce myxedema surgically. If one were to do bilateral thyroidectomies in a large number of these patients, one might expect to have some patients who would sustain injuries to the recurrent branch of the vagus with resulting voice problems and others would become hypoparathyroid due to total removal of the parathyroids. A subtotal thyroidectomy would minimize the risk of total removal of the parathyroids and a unilateral lobectomy, as was done in this patient, minimizes complications of operation and is sufficient for diagnosis.

Dr. Don Miller (Surgeon): Another consideration is the cosmetic effect resulting from the removal

of only one lobe of an enlarged thyroid gland. Many women would object to the presence of a lump on one side of the neck and would prefer the symmetry resulting from a subtotal thyroidectomy.

Dr. Helwig: Most of the cancers arising in Hashimoto's are of the papillary type and are usually of low grade malignancy. In most large series of Hashimoto's struma which have been followed many years there is an incidence of carcinoma of 2 to 4 per cent. Very few of those developing carcinoma will actually die of their disease.

Dr. Youmans: Crile and Hazard reported a series of 222 cases of proven Hashimoto's thyroiditis followed for two years or more and not a single case of cancer had appeared in this group. He had treated all of them with two to three grains of desiccated thyroid extract per day. The rationale for treating these patients with thyroid extract is to suppress pituitary production of thyroid stimulating hormone (TSH) which he feels may be an important factor in the development of cancer of the thyroid.

Dr. Helwig: Occasionally, a malignant lymphoma arises within a thyroid which is the site of Hashimoto's thyroiditis, however, this is very unusual.

Dr. Friesen: Dr. Helwig, what is the difference between Riedel's struma and Hashimoto's struma?

Dr. Helwig: Riedel's struma occurs in younger individuals, is approximately of equal frequency in men and women, is usually unilateral or involves only a portion of a lobe and extends to adjacent structures by dense fibrous tissue and adhesions. The affected portion of the lobe is usually shrunken and composed of dense sclerotic fibrous tissue. Again, there may be some difficulty in the clinical differentiation between Riedel's struma and carcinoma. Tracheal compression is more common than in Hashimoto's struma.

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The President's Message

DEAR DOCTOR:

I wish each of you a joyous holiday season and for the new year, health, happiness and success.

For us as a Society, I submit three wishes:

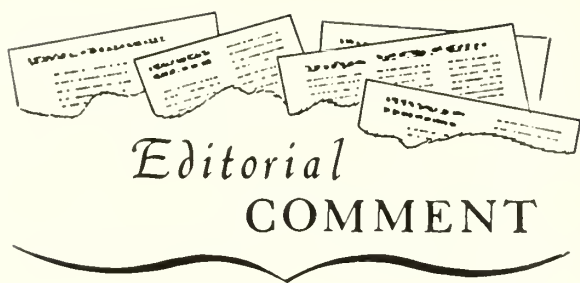
- that we are afforded the opportunity of practicing medicine outside federal domination and that our patients retain their privilege of selecting health services of their choice.
- that the aged in Kansas be given Kerr-Mills benefits which preserve their economic independence following a period of illness.
- that we may professionally and as citizens bring the people of this state the highest possible standards of health care in all its aspects.



Sincerely,

John C. Mitchell, MD

President



KaMPAC

Shortly before the election Dr. L. S. Nelson, the first chairman of KaMPAC, presented a written report of the purpose and activities of that organization. A portion of this report is printed below and recommended for your reading.

This organization was born as an outgrowth of a realization, on the part of the Board of Trustees of the American Medical Association, that doctors of medicine need to take a more active interest in practical politics or suffer the consequences of having our profession completely socialized. The trustees were disturbed also by the widening gulf between the practicing physician, as typified by the 190,000 members of the American Medical Association, and the so-called professional types, such as deans, teachers, and subsidized research workers. The geographical division is also fairly sharp. New York, Boston, and Baltimore, to which some would add California on the one hand, and all the great mid-section on the other. We, then, are in the center of this widening gulf of misunderstanding and divergent objectives.

Another polarity exists between physicians in Government employ and private practitioners.

The confusion in our profession has engendered confusion among our Legislators. One reason has been our failure to find a common denominator. Another is the fact that the emotional appeal of the care of the sick and aging has offered an open sesame for politicians to appeal for votes. Lenine wrote, many years ago, "The keystone of the arc of compulsion lies in the care of the sick." Federal employees, welfare clients, senior citizens, and a sizable number of union labor executives, comprise such a block of votes that Statesmanship has sometimes become lost in the mad scramble of some politicians to attract votes.

This is probably an over-simplification of a very complex problem which produced, on the part of the Board of Trustees, a conviction that some practical political education and action must be taken by physicians and their wives if we are to stem the tide of socializing our profession. Recognizing that we are suffering from this polyvalent virus of diversity of opinion, experts were called in to make a diagnosis. Then in searching for an area, not alone for agreement but also an area which would give the patient the most lasting benefit, they agreed that political education and activity offered the most in the form of lasting benefit.

Out of this, with the constant help of experts, came the American Medical Political Action Committee. This was soon followed by the organization of the various state PACs. We were told in varying degrees of emphasis that we have buried our heads so deeply in the sands of scientific medicine that we have not exercised proper civic responsibilities. It must remain the hope of all of us that we can eventually help crystalize legislative administrative and judicial opinion, not at the expense of the science and art of medicine, but for the broader utilization of the talents we possess.

It has been my privilege to have served in all echelons of organized medicine—local, state and national. I have never known a single effort on the part of organized medicine which was unethical or was not designed for the best interests of the health of the people of these United States. Every effort has been directed toward improvement in the science and art of medicine and this steadfast course has produced the highest standards, the best medical educational system and the healthiest nation on the face of the earth.

I wish that I could become as emotionally eloquent as the famous evangelist, Billy Graham, to enthrall you all to become members of KaMPAC and to become active in your own precinct regardless of which political party you choose. My own approach must be more rational and I hope intelligent, so that all will see the need and the challenge and take the advice of the experts, who have so carefully outlined what we should do.

The first point on which all of these experts agree and which has been reiterated again and again is the fact that ours is a TWO PARTY system and that our only hope of being effective is to be willing to work within the framework of one or the other of these two parties. Let me quickly add that AMPAC as well as KaMPAC are nonpartisan and will support candidates of either party so long as they believe as we do. You may ask, "What do we believe?" We want our legislators to continue to oppose compulsory Social Security for physicians and Medicare under Social Security. Parenthetically, I might add, Senator Carlson opposed both of these amendments in the finance committee of the Senate and on the floor of the Senate. Senator Pearson not only voted against these amendments to HR11,865, but also spoke eloquently and intelligently against them. His message displayed a complete understanding of pending legislation and demonstrated that he agrees completely with our opposition to Medicare under Social Security and compulsory inclusion of physicians in that system.

Why do we need forty dollars, or more, from a doctor and his wife as membership dues to AMPAC and KaMPAC? I will tell you why. Half of what we collect goes to AMPAC for running surveys and the office as well as helping candidates be elected. Our own funds are used in the same manner. Our organization is not incorporated so the dues you pay in cannot be a deductible item so far as income tax is concerned. Now the real virtue in this system is ap-

parent when we pool our resources and our financial help can be of sufficient amount to be noticed.

L. S. NELSON, M.D.
Salina

Tour of South America

People-to-People invites physicians to tour South America. Arrangements have been made through the ministers of health and ambassadors from these countries for a complete and thorough program schedule. Physicians will meet with ministers of health, practicing doctors and specialists, directors and teachers in medical colleges, and medical facilities, clinics and institutions in both urban and rural areas. They will also be met by U. S. Peace Corps volunteers who will show "on the spot" medical programs in various countries. A thorough visit and comprehensive study of the People-to-People Health Foundation's Medical School in Cuenca, Ecuador, will be arranged.

The program is arranged through state medical societies. The duration of the mission will be approximately 24 days and the all-inclusive cost of participation per delegate is estimated at \$1,668, beginning at Miami. A separate tour will be organized for any state in which 15 delegates enroll. The maximum limit is thirty. Several Kansas physicians have already expressed an interest in this program.

If you wish to enroll in this tour, or if you would like to receive additional information please notify the Kansas Medical Society. We are advised a limit of 25 such tours can be scheduled for the coming year and the first 25 states to complete their enrollment will be selected. If this is of interest to a sufficient number of physicians arrangements will then immediately be made for scheduling the dates of the tour. Therefore, your inquiry for further information and your individual comments will be appreciated.

HELP YOUR JOURNAL!

The January, 1965, issue will carry a readership questionnaire to be filled out and returned to the Journal office. This study is being made at the request of prospective advertisers. Help your Journal by promptly completing the form and returning it in the envelope provided.



Blue Shield

Answers to Subscribers' Questions About Blue Cross-Blue Shield

The majority of group, and all of non-group, subscribers face Blue Cross-Blue Shield rate increases in 1965. At the time this article is being written the exact amounts of these increases are not yet available. However, by the time this article is published, announcements will have been made and Blue Cross-Blue Shield will have contacted both subscribers and physicians with specific information explaining the reasons why rates must go up.

In brief, there are two main reasons for the rise in Blue Cross dues. First, Blue Cross has substantially increased private room allowances. The former policy of paying a standard indemnity (usually \$9 or \$12 per day) toward the cost of a private room will be changed to provide the average charge for multiple bed units in a given hospital toward private room charges. Part of the increase in Blue Cross rates will be earmarked to underwrite this long-sought improvement. Second, hospital costs continue to rise, necessitating increased Blue Cross income to maintain the present level of benefits in the coming year.

In 1964, Blue Cross payments for hospital care is averaging a little over \$29 per day. In order to continue paying the same percentage of the bill (and including the new private room benefits) it is estimated that Blue Cross payments for hospital care will average approximately \$33.32 during the next 12 months.

Blue Shield rates will also increase and the reason can be attributed entirely to increased use of Blue Shield benefits by subscribers. Higher allowances to physicians is not the answer. Subscribers continue to

make more frequent use of all types of physicians' services and Blue Shield must increase its rate income accordingly.

Whenever a year of general rate increases occurs, Blue Cross-Blue Shield anticipates a corresponding increase in questions from the subscribing public. Some questions refer directly to the "whys" behind the raised rates which directly affect the subscriber. In other cases, subscribers are motivated to reopen old queries about other related aspects of Blue Cross-Blue Shield which have concerned them. Not only Blue Cross-Blue Shield, but also physicians and their front office personnel, may be confronted with questions of this nature. Realizing this, Blue Shield wants physicians to have access to information to which they may refer, if they desire, in handling their patients' questions.

The material in this article is designed to show the Blue Cross-Blue Shield position on some of the most commonly encountered questions which may be anticipated. The replies to the questions below reflect the position of the Plans on those inquiries most often received.

Questions About Rates and Costs . . .

Why aren't Blue Cross-Blue Shield rates the same for everybody?

When Blue Cross and Blue Shield were first introduced in Kansas, benefits and rates were the same for everybody. At that time, the insurance industry was not too interested in trying to write coverage for hospital and medical expenses. However, in the late 40's, the

insurance industry discovered that this field could be profitable. They became very active in seeking out the healthiest people. Today, Blue Cross and Blue Shield are in direct competition with several hundred insurance companies and, in order to compete with these companies for a fair share of good health risks, we have had to establish categories of enrollment. Each category is rated on its own experience. It should be pointed out that the rates and benefits within each category are the same for everybody statewide.

Why do Blue Cross-Blue Shield rates go up every year?

Because both the cost and use of health care services have been increasing every year. In Blue Cross, rates are based on the actual cost of hospital care and the number of hospital days used during the year. Since 1950, the cost of hospital care has increased 146 per cent. The number of days used per 1,000 subscribers per year has increased 41.3 per cent.

Subscribers' benefits have been increasing every year because Blue Cross automatically absorbs increases in hospital charges. For example, in 1950, the average Blue Cross payment for one day of hospital care was \$8.52; in 1965 this is expected to be about \$33.00. In Blue Shield, use is the major factor. With few exceptions, payment on a given procedure under Blue Shield's most widely held schedule has remained unchanged. But the scope of covered procedures has been expanded from time to time. And subscribers have been making more frequent use of all types of medical services. Consequently, an increase in Blue Shield rates is necessary periodically.

Do hospitals charge Blue Cross patients more than other patients?

To the best of our knowledge, this is not being done. Periodically, Blue Cross audits member hospitals for the purpose of verifying charges. Audits have revealed insignificant mistakes which have been against hospitals as often as in their favor. In no hospital has more than one schedule of charges been found.

Why has the cost of hospital care increased so much?

Increased hospital charges have been and will continue to be largely a matter of increased wages. In 1946, an average of one and one-half employees were required for each patient. Today it takes two and one-half employees. The increase in personnel was caused by a reduction in the work week from 48 to 40 hours and the advancements in medical science requiring employment of additional technicians.

Hospitals have also had to pay increasingly higher wages to attract and keep skilled employees. Nevertheless, the prevailing wage in hospitals is still about 25 per cent below community levels. The continued effort to close this gap will be one of the most important influences contributing to rising hospital costs in the future.

Isn't unnecessary use of hospitals causing rates to go up?

There is undoubtedly some unnecessary or inefficient use of hospital services. A study made a few years ago indicated that about 7 per cent of the hospital days paid for by Kansas Blue Cross could be termed questionable. However, abuse or misuse is hard to define and physicians making this study had no way of knowing how many of the questionable days were due to environmental or social factors.

It seems the public's attitude toward the use of hospital has undergone a significant change since World War II. Today, we are going to the hospital with many types of minor illnesses which formerly were cared for at home. In many small homes today there are no sick room facilities. Also, we know one out of every three housewives has an outside job so there is no one to take care of the sick person at home.

Approximately 70 per cent of the population has some hospital coverage so the financial barrier to care has been removed. These environmental and economic factors have brought about a greater use of hospital care. We believe that effective control over use lies in controlling the supply of beds. If the community has more hospital beds than needed, this has a tendency to increase usage. It is important for civic leaders in co-operation with local physicians and hospital administrators to set up a regional plan matching the number of hospital beds to the needs of the area. An organization headquartered in Topeka—Kansas Health Facilities Information Service, Inc.—has been established to help communities develop a plan for hospitals and related facilities. Blue Cross-Blue Shield were instrumental in founding this organization.

Wouldn't rates be lower if Blue Cross-Blue Shield were more efficient?

All operating expenses for 1964—advertising, salaries, everything—is expected to be 6.1 per cent of income. Such an expense ratio is far below that of any insurance company, and we are reasonably sure that the economy of Blue Cross-Blue Shield would not be matched by any governmental agency.

Salaries paid to employees are in line with going wages paid for similar jobs in the community. Wages of top executives of Blue Cross-Blue Shield are considerably less than their counterparts in the insurance industry.

Concerning the Blue Cross-Blue Shield office building—it was apparent ten years ago that we had just about outgrown available office space in Topeka. It was decided to use reserve funds to construct our present building. This has proved to be an excellent investment. For example, in 1963 we estimate that there was a saving of \$31,378.00 over which we would have spent on rent for comparable office space.

Wouldn't money be saved if Blue Shield paid for more things outside of the hospital?

It is doubtful. Hospitalization in those groups hav-

ing the Diagnostic X-ray Rider is higher than in those groups without it. Studies from other Plans which have tried expanded outpatient benefit programs also show an increase—not lowering—of hospital use. We don't know why. Perhaps groups who buy this extra benefit are more health conscious and seek hospital care beyond the average. Or, perhaps wider use of x-rays reveals a larger number of conditions requiring hospitalization.

Isn't Blue Cross-Blue Shield pricing itself out of the business?

We recognize the problem confronting retired people on fixed incomes. In some cases it may mean the cost of Blue Cross-Blue Shield will exceed their means. But it is our feeling that the majority of people are able and willing to pay the increasing cost of hospital-medical care on which our rates are based. We believe the major problem is one of getting people to give the same importance in their budget to health care as they do to other expenditures. We know, for example, that people spend as much money on recreation as they do on doctor, hospital, and dental bills combined. It is our hope that the Kerr-Mills Program will eventually provide the answer to those retired people who are not able to afford major health care expense.

Why can't Blue Cross-Blue Shield reward those who seldom use benefits by reducing rates or increasing benefits?

An individual's rate is not based on his own use of benefits. Rates are based on the use of all subscribers in the same enrollment category. Blue Cross-Blue Shield funds are already fully utilized in payment for hospital and medical care; so the question arises—"Where would the money come from to reward the low users?" It would have to come from higher rates charged high users. This would violate our original purpose of spreading costs as evenly as possible over groups of subscribers—the same rate for the old as the young, for large families as small ones. Furthermore, it is our experience that an individual's past health record cannot be relied upon in predicting his future use of benefits.

Why does Blue Cross-Blue Shield charge two people as much as a family with several children?

It is our experience that the cost of benefits used by a man and wife closely parallels the cost of benefits used by couples with children, so actuarially this policy is correct. The fact that a membership currently covers only husband and wife means, in most instances, that the children are grown—thus the husband and wife have reached the age where the need for medical and hospital care rises sharply, way above what they required during childbearing years. If we rated according to the number in the family, it would be necessary to rate by age. This would mean that older subscribers would be paying about twice what they are presently.

Why aren't Blue Cross rates lower for subscribers in counties with low-cost hospitals?

Rates are a product of the number of days in hospitals times the cost per day. In less populous counties, we often find more hospital beds per 1,000 population than in our larger cities. In those counties, a lower than average cost per day can be offset by higher than average use by subscribers. It is reasonable for subscribers in low cost counties to pay part of the higher costs in larger hospitals. In the first place, subscribers from low-cost counties frequently are hospitalized in our large hospitals. Secondly, the skilled nurses and technicians who are staffing smaller hospitals were trained in the large ones. One of the Wichita hospitals estimates that its expenses and, therefore, its charges are increased as much as 18 per cent due to the cost of educational programs and other services which smaller hospitals do not have. These extra costs incurred by large hospitals are spread among Blue Cross subscribers regardless of place of residence.

Why are benefits cut back for subscribers who reach age 65?

For subscribers in non-group, Farm Bureau, and groups under 25, the number of hospital days allowed is reduced from 120 to 30 after the age of 65. Even with this benefit reduction, the 53,000 subscribers over age 65 are receiving in benefits about one million dollars more each year than their payments. This loss is being subsidized by younger subscribers. Ninety-three per cent of the hospital stays by subscribers over age 65 are for less than 30 days, the average being 16 days. So, in the great majority of cases, 30 days is sufficient to meet the acute medical needs of those in this age group. Blue Cross-Blue Shield has not found a way to increase benefits for older subscribers without asking for further subsidy by younger subscribers. Those subscribers over age 65, who have the Extended Benefits Rider, have additional coverage for nine dread diseases—including cancer. Older subscribers, in groups over 25 that are 75 per cent enrolled, have no reduction in days allowed.

Questions Related to Physicians . . .

Why do doctors charge more if the patient has Blue Shield?

We believe that doctors are making their regular charges. The problem is that Blue Shield allowances often are lower than physicians' fees. For example, Schedule 1 is covering 50 to 60 per cent of going charges around the state, so it has appeared to some subscribers that the physician may be just about doubling his fee to patients who have Blue Shield. Actually, his charge is the same as it would be if the patient did not have Blue Shield.

Schedule 1 originated with the founding of Blue Shield in 1946. In most respects that schedule remains unchanged. Therefore, its coverage has long been inadequate. The 53 per cent who still have Schedule 1

(Continued on page 611)



Personalities—IN KANSAS MEDICINE

Frederick P. Wolff, Pratt, was in charge of the plans for a heart seminar held in Pratt in October. Among the guest speakers were **Hugh Riordan**, **Alfred M. Tocker** and **Lilia Rodrigues Tocker**, all of Wichita.

Galen W. Fields, Scott City, was installed as the new president of the Kansas Academy of General Practice at the group's annual convention held in Wichita. **John N. Blank**, Hutchinson, was chosen as president-elect.

Classes in oxygen therapy for professional personnel were held at the Olathe Community Hospital and the Miami County Hospital during the latter part of October. **George J. Pierron** organized the classes at Olathe, and **Rex C. Stanley** arranged for the program at Paola. The program was sponsored by the Kaw Valley Heart Association.

Hughes W. Day, Kansas City, went to New Jersey in October, where he spoke on the topics "Cardiac Resuscitation" at a meeting of the American Academy of Medicine in East Orange, and "Intensive Coronary Care" at the annual meeting of the American Heart Association held in Atlantic City.

Delbert V. Preheim, Newton, and **Floyd C. Beelman**, Topeka, participated in the 14th annual convention of the Kansas Nursing Home Association, held in Topeka during the latter part of October.

The Osborne Chamber of Commerce recently presented a plaque to **James E. Henshall**, honoring him for 50 years of service to that community.

Elwyn Taylor and **Chester W. Haines**, both of Haven, have been appointed to the staff of the Colonial Manor nursing home in Haven.

Marjorie Sirridge, Kansas City, discussed "Women and Health" at the fall meeting of the Health Career Clubs of the Kansas City, Kansas, high schools.

Free diagnostic clinics for crippled children of Labette and Grant counties were held in Parsons and Ulysses during October. Four Kansas Citians, **Leonard F. Peltier**, **Lynn O. Litton**, **Philip C. Nohe**, and **C. L. Francisco**, were in charge of the clinic at Parsons. **John F. Lance**, Wichita, and **John B. Jarrott**, Hutchinson, conducted the clinic at Ulysses.

Carl Tompkins of Newton was the guest speaker at a dinner meeting of District IV Kansas State Nurses Association, held in McPherson in November.

Herbert C. Miller, professor and chairman of the department of pediatrics at KUMC, was the guest speaker at the Kansas March of Dimes Defect Conference held in Wichita in November.

An article on the treatment of simple fractures by **H. O. Marsh** of Wichita was recently printed in *Consultant* magazine, published by Smith Kline and French.

Robert G. Rate, Halstead, was installed as president of the Kansas Chapter of the American College of Surgeons at a meeting held at KUMC in October. **William A. Reed**, Kansas City, was named president-elect, and **Charles Isaac**, Newton, and **Vernon Filley**, Pratt, were re-elected state councillors. **Richard Speirs** of Dodge City is the outgoing president.

A worry clinic, sponsored by the Reno County Mental Health Association, was held in Hutchinson in October. **Robert D. Boles**, Dodge City, participated in the one-day program.



CHRISTOPHER'S TEXTBOOK OF SURGERY by Loyal Davis, M.D. W. B. Saunders Company, Philadelphia, 1964. 1,481 pages. \$18.50.

This eighth edition of Christopher's Surgery is published four years after the seventh. As Dr. Davis states the very recent advances in the biochemical sciences make frequent revisions necessary to keep the medical student abreast of the current concepts in the care of the surgical patient.

This text reflects the work of many surgeons as each specialist is assigned a chapter to write in the field of his particular specialty. Another innovation in this text is the short "thumb-nail" sketch of each author at the beginning of each chapter. New additions such as *Horizons in Surgery*, *The Qualifications of a Surgeon*, and *Surgical Judgment*, add new phases to a surgical text for medical students that should be of great value.

I would suggest that this book is first a textbook for medical students and I believe was so intended. Second, it is a general surgical text to teach basic principles to aspiring surgeons or general practitioners. It is not a text of surgical procedures that would help the trained surgeon other than as a review. It is an excellent text in its eighth edition, as it has been in all its previous editions.—S.L.V.

PATIENT CARE AND SPECIAL PROCEDURE IN X-RAY TECHNOLOGY, 2nd Edition by Carol Hocking Vennes, R.N., B.S., John C. Watson, R.T., C. V. Mosby Company, St. Louis, 1964. 220 pages. \$6.25.

A combination of Radiological Technologist and a Registered Nurse writing about patient care and x-ray procedures is rare. Their cooperation has produced a unique publication much needed in the field of radiological technology. This expanded second edition has added a chapter on emergency x-ray procedures and revised chapters on vascular radiology. There has been some revision in the preliminary chapters dealing with patient care and the relationship of the technician to the professional staff. The chapter deal-

ing primarily with the technician-patient relationship is a classic.

This book reads easily and may be over-simplified in some respects. This should be required reading for all Radiological Technologists either as a student or to reconfirm and add to the knowledge they already possess. Nurses who have considerable dealing with x-ray would do well to read this book and would find its contents valuable. Radiologists would do well to review the contents and furnish each of their own technicians with a copy.—R.C.L.

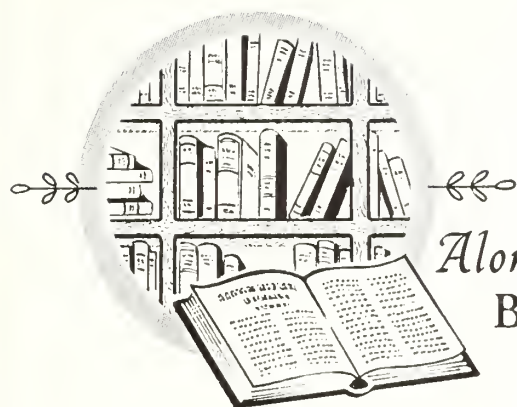
Pediatric Cardiology by Alexander S. Nadas, M.D. W. B. Saunders Company, Philadelphia, 1963. 838 pages. \$16.

This excellent book offers a reference text to the clinician who is interested in heart diseases of children at most any level. It is of value to the practitioner who is presented with such a problem only infrequently, as well as the highly skilled cardiologist.

The opening chapters describe the diagnostic tools and are followed by the application of these tools to a cardiac congenital disease. Points to be stressed in history taking and physical examination with a detailed description of the abnormal findings in children are extremely helpful. The description of cardiac auscultation would be valuable reading for anyone who uses a stethoscope. Chapters on electrocardiography and phono-cardiography follow. These became quite detailed and technical and require a fundamental knowledge of subjects which could not be included in a book such as this to be fully appreciated.

Dr. Nadas writes with the warm, compassionate feeling for his subject that one would acquire with the vast experience he has had in his field. This is by no means a technical manual alone, although the information is there in detail for each of the diseases discussed. Throughout the volume are interpretations of the technical materials so that it can be applied to the clinical situation, giving the reader the benefit

(Continued on page 611)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Abrahamson, I. A. Color atlas of anterior segment eye diseases. McGraw-Hill, 1964.
- American Academy of Neurology. Morphological and biochemical correlates of neural activity. Hoeber, 1964.
- Avery, M. E. The lung and its disorders in the newborn infant. Saunders, 1964.
- Boies, L. R., Hilger, J. A., and Priest, R. E. Fundamentals of otolaryngology . . . 4th ed. Saunders, 1964.
- Brown, E. L. Patients as people. Russell Sage Foundation, 1964.
- Ciba Foundation Study Group No. 17, London, 1963. Diet and bodily constitution. Little, Brown, 1964.
- Cowdry, E. V. and Emmel, V. M. Laboratory technique in biology and medicine. 4th ed. Williams & Wilkins, 1964.
- Duncan, G. G., ed. Diseases of metabolism . . . 5th ed. Saunders, 1964.
- Dyke, S. C., ed. Recent advances in clinical pathology. Series IV. Churchill, 1964.
- Egg-Benes, Maria. When a child is different; a basic guide for parents and friends of mentally retarded children. Day, 1964.
- Gardner, D. B. Development in early childhood; the preschool years. Harper & Row, 1964.
- Goldfarb, A. F., ed. Advances in the treatment of menstrual dysfunction. Lea & Febiger, 1964.
- Goodale, R. H. Clinical interpretation of laboratory tests. 5th ed. Davis, 1964.
- Goodhart, R. S. and Wohl, M. G. Manual of clinical nutrition. Lea & Febiger, 1964.
- Greenwood, R. J. and Finkelstein, David. Sinoatrial heart block. Thomas, 1964.
- Henry, R. J. Clinical chemistry, principles and techniques. Harper & Row, 1964.
- Horowitz, M. J. Educating tomorrow's doctors. Appleton-Century-Crofts, 1964.
- Huxley, Sir J. S. Essays of a humanist. Harper & Row, 1964.
- Jackson, D. D. Myths of madness; new facts for old fallacies. Macmillan, 1964.
- Jinks, J. L. Extrachromosomal inheritance. Prentice-Hall, 1964.
- Jokl, Ernst. Medical sociology and cultural anthropology of sport and physical education. Thomas, 1964.
- Kaufman, J. J., ed. Advances in diagnostic urology. Little, Brown, 1964.
- King, A. J. Recent advances in venerology. Little, Brown, 1964.
- Krugman, Saul and Ward, Robert. Infectious diseases of children. 3d ed. Mosby, 1964.
- Landon, J. F. and Sider, H. T. Communicable diseases. 8th ed. Davis, 1964.
- Lewis, T. L. T. Progress in clinical obstetrics and gynaecology. 2d ed. Little, Brown, 1964.
- Lloyd, C. W., ed. Human reproduction and sexual behavior. Lea & Febiger, 1964.
- Mason, E. E. and Bulgren, W. G. Computer applications in medicine. Thomas, 1964.
- Nishimura, Hideo. Chemistry and prevention of congenital anomalies. Thomas, 1964.
- Rappaport, S. R., ed. Childhood aphasia and brain damage: a definition. Livingston, 1964.
- Robinson, A. M. The psychiatric aide: a textbook of patient care. 3d ed. Lippincott, 1964.
- Rosen, Ismond, ed. The pathology and treatment of sexual deviation, a methodological approach. Oxford University Press, 1964.
- Rubin, Philip. Dynamic classification of bone dysplasias. Year Book, 1964.
- Scherf, David and Cohen, Jules. The atrioventricular node and selected cardiac arrhythmias. Grune & Stratton, 1964.
- Society for General Microbiology. Microbial behaviour, "in vivo" and "in vitro"; fourteenth symposium. Cambridge, England, 1964.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence

Summary of Cases Reported in August, 1964 and 1963

Diseases	August			January to August Inclusive		
	1964	1963	5-Year Median 1960-1964	1964	1963	5-Year Median 1960-1964
Amebiasis	1	3	3	12	78	32
Aseptic meningitis	5	—	5	7	—	7
Brucellosis	—	—	—	2	6	13
Cancer	237	346	266	2,913	2,690	2,680
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	3	3	3	27	9	15
Gonorrhea	264	271	264	2,132	1,913	1,844
Hepatitis, infectious	35	20	22	477	172	352
Meningitis, meningococcal	—	1	—	8	11	11
Pertussis	2	14	6	15	53	34
Polioomyelitis	—	—	—	1	—	1
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	100	15	6	191	165	37
Scarlet fever	—	1	1	65	282	406
Shigellosis	30	—	6	184	31	89
Streptococcal infections	15	112	15	1,138	965	921
Syphilis	56	70	87	625	731	816
Tinea capitis	4	2	4	62	45	71
Tuberculosis	21	20	21	179	188	179
Tularemia	—	2	—	4	13	9
Typhoid fever	—	1	—	3	1	2

TETANUS: STILL A THREAT?

The absence of tetanus from Kansas morbidity incidence reports might suggest that this disease is no longer a threat to the state. Unfortunately, this is not the case. As long as the population remains apathetic about tetanus protection, the *Clostridium tetani* is an ever-present danger.

On July 7 of this year, a Crawford County widow lost her life as the result of a tetanus attack. A puncture wound in the top side of the left foot was the cause of the lockjaw fatality.

Statistics indicate that the persons who are most highly susceptible to the contact of tetanus include: (1) children, (2) farmers, (3) industrial workers, and (4) "do-it-yourself" hobbyists. These groups compose a large segment of the Kansas population.

Since 1958, tetanus fatality rates have been high in the state of Kansas. The figures in the following table indicate that tetanus has been fatal in two out of every three Kansans who have contacted the disease since 1958. And, it is important to remember that these are only the recorded tetanus cases and fatalities. Many unrecorded and unknown cases of

this deadly disease occur every year. The national tetanus fatality rate (based on recorded cases) is still about 50 per cent.

REPORTED TETANUS CASES AND TETANUS DEATHS BY YEAR, KANSAS, 1958-1963

Year	Reported Tetanus Cases	Reported Deaths	Fatality Rate* PER CENT
1958	5	3	60
1959	5	4	80
1960	2	1	50
1961	2	2	100
1962	8	4	50
1963	4	3	75

* Case fatality rate expressed as the per cent of cases that end in death. For first eight months of 1964 records show one reported case and one death.

For the person who has received the initial series of tetanus immunizations and has followed through

with tetanus boosters every three years, a toxoid booster is all that is required following an injury which might harbor the *Clostridium tetani*. But, when thorough tetanus immunization has not been maintained, such an injury must be followed by an injection of tetanus antitoxin. The antitoxin dosage often results in unfortunate side effects.

A tetanus cure utilizing forced oxygen intake is being studied at Chicago's Loyola University. The *Clostridium tetani*—which seeks an anaerobic culture—may yield to oxygen which is forced into the blood and into the tissue. With this new treatment technique, the tetanus patient breathes about 90 per cent pure oxygen while encompassed in a steel decompression chamber. Early reports indicate that the cure is highly effective.

As long as Kansans continue to use school playgrounds, farm equipment, and home shop power tools, tetanus will continue to be a threat to the entire population of the state. This disease does not play favorites. Age, sex, or occupation makes little difference to the attack of the *Clostridium tetani*.

The staff of the Vaccination Assistance Section of the Division of Disease Prevention and Control is presently planning activities which will promote immunization against tetanus primarily in the pre-school age group. Public education concerning the necessity of tetanus boosters should be of immediate interest to all Kansas health officials.

Book Reviews

(Continued from page 608)

of the author's experience. Occasionally the conclusion is left to the reader.

The book is a great value as a source of information and warm, philosophical comment regarding all phases of its subject. It has become a valuable addition to the Stormont Medical Library, where it should provide a useful reference to the pediatrician and family physician. It would be a help in interpreting their findings and, also, the recommendations of their consultants. The consultant as well will find it an extremely useful book.—A.C.C.

Blue Shield

(Continued from page 606)

will continue to be disappointed with their coverage until they select a higher benefit plan.

There are instances when the Blue Shield allowance is higher than the physician's regular fee. Frequently

the Blue Shield payment for emergency first-aid treatment and materials exceeds the doctor's regular charge. Sometimes physicians feel that they are justified in accepting the higher Blue Shield allowance because this balances out those situations where they accept the Blue Shield allowance as full payment when they normally would make a higher charge. Those rare cases involving serious overcharging should be referred to Blue Shield for adjudication by a committee of physicians.

I thought Blue Shield was supposed to pay all of my doctor's bill. Why should my income make any difference in my coverage?

Whether or not Blue Shield benefits will cover all of the doctor's bill depends on the doctor's charge, the Blue Shield schedule held by the subscriber and, under Schedules 1 and 2, the income of the subscriber. Doctors' charges for a particular service will vary around the state. Their charges will also vary from case to case, depending on the complexity of the service performed. If Blue Shield were set up to provide full coverage in every case, it would have to pay physicians on a "full fee basis" instead of according to a schedule of allowances. Subscribers have a choice of schedules so they may relate coverage to charges in their area. Schedule 1, on the average, is covering 50 to 60 per cent of doctors' charges around the state. Schedule 2 is covering 60 to 70 per cent of going charges. A subscriber may qualify for full coverage under Schedule 1 if the family's annual income is below \$3,000—in Schedule 2 below \$4,500.

In 73 counties, Blue Shield Schedule 3 is available. Physicians sponsoring this Plan have agreed to accept the Blue Shield allowance as full payment of their fees except when the patient chooses a private room or has additional coverage.

The replies to the questions above are those made by Blue Cross-Blue Shield. Blue Shield hopes that the availability of this information may help its Participating Physicians to handle inquiries from persons in their local communities.

NEW MEMBERS

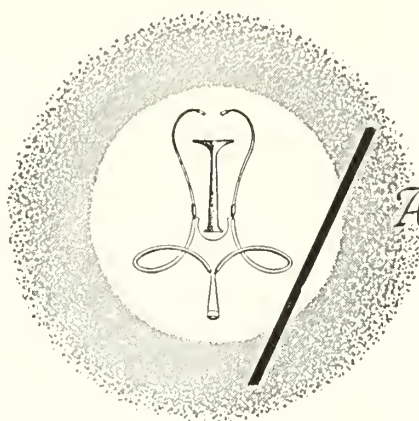
The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Jody Anderson, M.D.
519 South Santa Fe
Salina, Kansas

Jack E. Lungstrum, M.D.
416 South Santa Fe
Salina, Kansas

Charles E. Livingston, M.D.
135 East Claflin
Salina, Kansas

Philip M. Platten, M.D.
737 East Crawford
Salina, Kansas



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

The Dartnell Corporation of Chicago has just published the first comprehensive national directory of retirement residences. *1001 Best Places to Live When You Retire* is available in either paperback (\$3.95) or hardbound (\$5.95) form. Contact local book stores or Sales Department, The Dartnell Corporation, 4660 North Ravenswood, Chicago 60640.

Candidates who have participated in the Part I (written) examination of the American Board of Obstetrics and Gynecology given on December 11, 1964, will be notified of the results of their examination on or before February 1, 1965. Applications for the Part I examination to be given on July 2, 1965, will be accepted in the office of the Secretary during the months of January and February. All applications postmarked after February 28 will be returned to the sender. Application forms and Bulletins of the Board may be obtained by writing to the Secretary—Clyde L. Randall, M.D., American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216. Servicemen applying for the Part I examination are requested to submit with their application, the name of their Commanding Officer.

JANUARY

Jan. 9-10 Symposium on cardiovascular diseases sponsored by American Therapeutic Society and Minnesota Heart Association, Minneapolis. Write: Minnesota Heart Association, 1821 University Ave., St. Paul 55104.

FEBRUARY

Feb. 18-19 Cardiovascular disease symposium sponsored by the Heart Association of Southeastern Pennsylvania, Philadelphia. Write the heart association at 318 S. 19th St., Philadelphia 19103.

POSTGRADUATE COURSES

American College of Physicians.

Jan. 4-8 *Stroke and the Cerebrovascular Diseases*, Downey, Calif.

Feb. 15-19 *Pathology, Pathologic Physiology and Clinical Aspects of Renal Disease*, Chicago.

Feb. 22-26 *Pain and Addiction*, Boston, Mass.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia, 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska:

Jan. 21-22 *Obstetrics and Gynecology*

Feb. 5-6 *Basic Vectorcardiography*

Feb. 25-26 *Neurology and Psychiatry*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha, 68105.

University of Colorado:

Jan. 17-23 *General Practice Review*

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver, 80220.

University of Kansas:

Jan. 21-22 *Medicine and the Law: The New Corner's Law*

Jan. 25-27 *Gynecology and Obstetrics*

Jan. 27-28 *Maternal and Child Health*

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas, 66103.



GUY A. FINNEY, M.D.

Guy A. Finney, Topeka, died on October 29, 1964, in a Topeka hospital. He was 76 years old.

He was born in New Plymouth, Ohio, on January 25, 1888, but lived in Kansas almost all of his life. He graduated from the University of Kansas School of Medicine in 1910 and was a general practitioner at Wamego from 1913 to 1917. He served in the U. S. Medical Corps during both world wars. In 1920 he began his practice in the field of radiology in Topeka and continued until his retirement in 1963. He was a member of numerous civic organizations, on the staff of both city hospitals, and consultant in radiology at the Menninger Clinic, Topeka VA Hospital and the Santa Fe Hospital.

Dr. Finney is survived by his wife and a son.

FREDERICK L. B. LEAVELL, M.D.

Frederick Leavell, 85, died on October 30, 1964, at his home in Iola.

Born on August 28, 1879, in Linn County, Kansas, Dr. Leavell attended Emporia State Teachers College and the Barnes Medical College in St. Louis, graduating in 1905. In 1906 he began his medical practice in Gas City, moving to Iola in 1910, where he practiced until his retirement in 1959. He was a member of all local Masonic bodies, as well as several medical organizations.

Preceded in death by his wife, he is survived by a sister, nieces and nephews.

RALPH E. WHITE, M.D.

Ralph E. White, 60, and his wife, Anna, died in an automobile accident near Strong City, Kansas, on October 26, 1964. They were returning from a medical meeting in Denver, Colorado, to their home in Garnett.

Dr. White was a native of Anderson County, Kansas, born on September 11, 1904. He was a graduate of the University of Kansas School of Medicine in 1935, and began his medical practice in Garnett shortly thereafter. Following military service in World War II he resumed his practice in Garnett, and was active in the campaign to secure a hospital for Anderson County. Prominent in civic affairs, Dr. White devoted much time to the development and growth of his community.

Dr. and Mrs. White are survived by a daughter.

The Kansas Medical Society—1964-1965

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A.M.A. Delegate.....	Lucien R. Pyle, Topeka
A.M.A. Alternate.....	William J. Reals, Wichita
A.M.A. Alternate.....	Glenn R. Peters, Kansas City
Chairman of Editorial Board....	Orville R. Clark, Topeka

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Cloud.....	Paul L. Nelson, Concordia.....	Yong W. Kim, Concordia
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Edwards.....	R. E. Schnoebele, Kinsley.....	F. G. Meckfessel, Lewis
Finney.....	G. R. Hastings, Garden City.....	H. M. Wiley, Garden City
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Geary.....	Alex Scott, Junction City.....	C. V. Minnick, Junction City
Greenwood.....	J. Gordon Claypool, Howard.....	Virgil C. Hollenbeck, Eureka
Harvey.....	Charles Isaac, Newton.....	Erwin T. Olson, Newton
Iroquois.....	Jack E. Randle, Bucklin.....	R. M. Daugherty, Meade
Jackson.....	E. C. Moser, Holton.....	M. Ross Moser, Holton
Jefferson.....	W. A. R. Madison, Nortonville.....	
Johnson.....	George J. Pierron, Olathe.....	Robert M. Mathews, Shawnee Mission
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Northeast Kansas.....	Thomas A. Montgomery, Sabetha.....	Martin J. Rucker, Sabetha
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